COMMONWEALTH OF PUERTO RICO
OFFICE OF THE GOVERNOR
ENVIRONMENTAL QUALITY BOARD

Pursuant to and in accordance with the Environmental Policy Act (Law No. 9 of June 18, 1970, as amended), this

# PUERTO RICO WATER QUALITY STANDARDS REGULATION, AS AMENDED, ON MARCH 2003.

Has been promulgated by Resolution Number R-03-5 to enhance, maintain and preserve the quality of the waters of Puerto Rico compatible with the social and economic needs of Puerto Rico.

Dated this March 28, 2003

_____ _____

Associate Member Vice-Chairman

_____

Chairman

NOTE: (THE ORIGINAL WATER QUALITY STANDARDS REGULATION WAS FILED IN THE DEPARTMENT OF STATE ON JANUARY 4, 1974. SUBSEQUENT AMENDMENTS WERE MADE ON MAY 1974, OCTOBER 1976 AND FEBRUARY 1983, NOVEMBER 1987, AND JULY 1990)

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## DECLARATION OF GOALS AND PURPOSES

The Environmental Quality Board recognizes that water pollution is detrimental to public health and

welfare, creates public nuisances, is harmful to wildlife, fish and other aquatic life, and impairs domestic, agricultural, industrial, recreational and other beneficial uses of water.

It is the goal of this Board, and this Regulation, to preserve, maintain and enhance the quality of the waters of Puerto Rico in such manner that they be compatible with the social and economic needs of the Commonwealth of Puerto Rico.

The purposes of this Regulation are to: (1) designate the uses for which the quality of the waters of Puerto Rico shall be maintained and protected, (2) prescribe the water quality standards required to sustain the designated uses, (3) identify other rules and regulations applicable to sources of pollution that may affect the quality of waters subject to this Regulation and (4) prescribe additional measures necessary for implementing, achieving and maintaining the prescribed water quality.

This Regulation is enacted in accordance with Law No. 9 approved on June 18, 1970, as amended known as the Public Policy Environmental Act, and nullifies any previous provision, resolution, agreement or regulation of the Commonwealth of Puerto Rico on the same subject which may contradict this Regulation.

# ANTI-DEGRADATION POLICY

It is the policy to the Government of Puerto Rico to conserve and protect the existing uses of the Waters of Puerto Rico. The water quality necessary to protect the existing uses, including threatened and endangered species shall be maintained and protected.

In those water bodies where the quality exceeds levels necessary to support propagation of fish, shellfish, wildlife, desirable species including threatened or endangered species and recreation in and on the water, that quality shall be maintained and protected. A lower water quality may be allowed when the Board finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the Board's Continuing Planning Process that allowing lower water quality is necessary to accommodate important economic or social development in the area where the waters are located. In allowing such lower water quality, the Board shall require a water quality level adequate to protect existing uses fully. Further, the Board will require that:

(1) the highest statutory and regulatory requirements for all new and/or existing point sources be achieved and

(2) all cost-effective and reasonable best management practices for non-point source control be implemented.

Where high quality waters constitute an outstanding national resource, such as waters of El Yunque National Forest and State parks, wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

Where potential water quality impairment is associated with a thermal discharge, this thermal discharge must comply with Section 316 of the Clean Water Act as amended.

Attachment includes the EQB-s Plan for The Implementation of the Anti-Degradation Policy.

# ARTICLE 1 - DEFINITIONS

Acute Bioassay

Toxicity test designed to determine if the response to a stimulus, such as a total effluent, specific substance or combinations of these, has sufficient severity to induce a detectable effect in an organism during a period of 96 hours of less; even if said effect is not necessarily the death of the organism. The acute bioassays shall be performed according to the procedures described in "Mixing Zone and Bioassay Guidelines" approved by the Board.

Acute Effect

Organism response to a stimulus, detected during an acute bioassay that comprises a stimulus of such severity that induces a quick response. In toxicity tests, an acute response is considered to occur in a period of 96 hours or less. An acute effect can take place through events that not necessarily involve the death of the organism.

Acute Toxicity Units

The reciprocal of the effluent dilution that causes an acute effect by the end of an acute exposure period, obtained during an acute bioassay as defined by the following equation:

$$TUa = \frac{100}{LC50}$$

(The LC50 is expressed as the percent (%) of effluent in the dilution water).

Agent

All the factors, including light and heat, which cause or could cause, induce or could induce, produce or could produce, influence or could influence, help or could help to cause variations or alterations in organisms or in the environment.

Adverse Effect

Refers to any human-induced change in the quality of a water body that may cause undesirable physiological reactions in humans, fish or other fauna or flora.

Applicable Rules and Regulations

See Section 6.1.2.

Background Concentration

Existing biological, chemical or physical characteristics in a body of water. For mixing zones, a point one hundred (100) meters up-stream from the limit of the mixing zone will be used for monitoring, or at the location approved by the Board by mutual agreement with the petitioner, based on the details of each individual case. The value of the background concentration will be determined according to the procedures established by the "Mixing Zone and Bioassay Guidelines" approved by the Board.

Benthic Species

Organisms that inhabit on, over, or in the bottom of the waterbody; live adhered to the bottom or crawl over the bottom.

Best Engineering Practices
Use of the most effective procedures, methods, techniques, and/or equipment to efficiently attain the desired objective at a minimum economic, human and environmental cost.

Best Management Practices (BMP)
The most effective practicable means of preventing or reducing the amount of pollution generated by non-point and point sources to a level more compatible to the water quality goals, including, but not limited, to structural and non-structural controls and operating and maintenance procedures.

Bioaccumulative Agent
Agent which is assimilated by organisms, but is not metabolized and shows an elimination rate much lower than its accumulation rate, so that its total content tends to increase during the life of the affected organisms.

Bioassay
Toxicity test to determine the acute or chronic response of living organisms to an effluent, specific substances or combination of these, performed according to the procedures described in the "Mixing Zone and Bioassay Guidelines", approved by the Board. The representative organisms to be used must be approved by the Board prior to the test.

Biochemical Oxygen Demand
A measure of the oxygen required for the biochemical oxidation of organic matter in a sample.

Biota
All living organisms.

Black Waters
Human or animal bodily wastes and water used for flushing and/or transport of such wastes.

Board
The Environmental Quality Board of the Commonwealth of Puerto Rico, as created pursuant to Law No. 9 of June 18, 1970, as amended.

Carcinogenic Agent
Agent that produces metabolic alterations in cells, prompting their uncontrolled growth.

CFR

Refers to Chapter 40 of the Code of Federal Register.

Chronic Bioassay

Toxicity test designed to determine if the response to a stimulus such as, a total effluent, a specific substances, or combination of these has sufficient severity to induce a long-term effect that could linger for up to one-tenth of the life span of the organism. A chronic effect could be lethality, growth rate reduction, reproduction rate reduction, etc. A chronic bioassay shall be performed according to procedures described in "Mixing Zone and Bioassay Guidelines", approved by the Board.

Chronic Effect

Organism response to a stimulus, detected during a chronic bioassay, that comprises a stimulus that lingers or continues for a relatively long period of time, which could be of the order of one-tenth of the life span of the organism used in the test. A chronic effect could imply lethality, growth rate reduction, reduced reproduction rate, etc.

Chronic Toxic Unit

The reciprocal of the effluent dilution that causes no unacceptable effect on the test organisms by the end of the chronic exposure period, obtained during a chronic bioassay, as defined by the following equation:

$$TUc = \frac{100}{NOEC}$$

(The NOEC value should be expressed in terms of the percent (%) of the effluent in the dilution water).

Clean Water Act

Federal Water Pollution Control Act, as Amended. (33 U.S.C. 466 et seq.)

Closed Body of Water

All surface water bodies, groundwater and coastal waters that are not open coastal waters.

Coastal Waters

Ocean waters within the jurisdiction of the United States of America and the Commonwealth of Puerto Rico, as established by Article 8 of the Puerto Rico Federal Relations Act of 1917, as amended, and shore waters which are subject to ebb and flow of the tides. These waters do not include Estuarine Waters as defined in this Regulation.

Coliform group

All the aerobic and facultative anaerobic gram-negative, non-spore-forming rod-shaped bacteria that ferment lactose broth with gas formation within 48 hrs at 35EC $\pm$ 0.5EC as per Standard Methods.

Colloidal Substances

Minute substances including, but not limited to clay or other substances which do not settle out without the use of a flocculating agent.

Contaminant
See Pollutant.

Conservative Pollutant
A pollutant that is persistent and not subject to decay or transformation.

Criteria Continuous Concentration (CCC)

EPA national water quality criteria recommendation for the highest instream concentration of a toxicant or an effluent to which organisms can be exposed indefinitely without causing an unacceptable effect. It is equal to:

$$CC = 1.0\ TUc$$

Criteria Maximum Concentration (CMC)

EPA national water quality criteria recommendation for the highest instream concentration of a toxicant or an effluent to which organisms can be exposed for a brief period of time without causing mortality. It is equal to:

$$CMC = 0.3\ TUa$$

Critical Initial Dilution

Minimum dilution to be determined by means of the use of a mathematical model to be approved by the Board, and according to the procedures described in "Mixing Zone and Bioassay Guidelines", approved by the Board.

Design Flow

The critical flow used for steady state waste load allocation.

Designated Uses

Refers to those uses specified in this Regulation for each water body or segment whether or not these uses are being attained.

Desirable Species

Species indigenous to the area or introduced to the area because of ecological or commercial value.

Diffuser

Structure which is connected to or is part of a submerged outfall provided with ports and whose function is to reduce the diameter of the outfall in order to increase the effluent exit velocity to obtain a better dilution in the receiving body of water.

Dilution

Dilution is the reduction of the concentration of a substance by mixing it with ambient waters, and will be defined by the following equations:

a. Volumetric Dilution:

$$D = \frac{Vi + Vd}{Ve}$$

where; D = Dilution
Ve = Effluent volume
Vd = Dilution volume

b. Flow Dilution:

$$D = \frac{Qe + Qd}{Qe}$$

where; D = Dilution
Qe = Effluent flow
Qd = Dilution water flow

c. Concentration Dilution:

$$D = \frac{Ce - Ca}{C - Ca}$$

where; D = Dilution
Ca = Background concentration
Ce = Concentration of the pollutant in the discharge
C = Final concentration of the pollutant after dilution

Dilution shall be determined according to the procedures described in "Mixing Zone and Bioassay g Guidelines" approved by the Board.

Direct Contact Recreation

See Primary Contact.

Direct Discharge

Introduction of pollutants onto or into a water body by a point source.

Discharge

Any addition, release, leak, spill, leachate, seepage, pumping, pouring, dumping, spraying, emptying or emitting of a pollutant into or onto the ground or any water body as defined in this Regulation.

Discharge Length Scale

The square-root of the cross-sectional area of any port in an outfall.

Dissolved Oxygen

Free oxygen in the water.

Domestic Wastes

Any liquid, gaseous, or solid waste or any combination of these generated as a result of satisfying the basic human

and animal needs.

Drainage Area

That area in a horizontal plane, determined by a topographic divide from which surface runoff from precipitation drains by gravity into a water body above a specified point.

Dye Test

Tests which are performed by injecting dyes into any point of a discharge of a body of water to determine the origin, the direction of the flow and the intermediate or final fate.

e

Number e = lim (1 + 1/n)n 2.718

n_

EAC

See Equitable Allowable Concentration (EAC)

Ecological Community

Group of organisms dominated by one species or a specific group of species. The ecological community derives its name from that of the dominant species, such as coral reefs and mangroves.

Ecological Value

Refers to the existing interrelations between water body, fauna and flora that result in the continuity, stability and permanence of the ecological community.

Effluent

Discharge of used waters, sanitary wastes, other wastewaters, or any liquid substances treated or untreated, proceeding from sanitary treatment plants, industrial wastewater treatment plants, manufacturing processes, storage tanks, ponds, sewers or any water pollution source.

Emergency Plan

The corrective procedure to be followed in the case of oil or hazardous substances spills, or in the case of damage caused by natural phenomena

Emergency Plan for Puerto Rico

Any plan, rule or regulation adopted by the Commonwealth of Puerto Rico to prevent, contain and counter spills of oil or hazardous substances in the waters of Puerto Rico.

Enduring Water Body

Water body which has a 7 day 2 year low flow greater than zero, even in the absence of any contribution that may occur from a discharge.

Enterococcus

The group of fecal streptococcus that excludes Streptococcus avium, S. bovis and S. equinus, in accordance with Standard Methods.

Environmental Protection Agency

The Environmental Protection Agency of the United States of America.

EPA

U.S. Environmental Protection Agency.

EQB Form WLA-01

Form required by EQB to collect information applicable to waste load allocation. This form must be used by all point sources for which EQB has determined that a waste load allocation is necessary.

Equitable Allowable Concentration (EAC)

A WLA method that allocates equal effluent concentrations of a substance x to each point source that discharges to the receiving water body in which the WLA is performed.

Estuary

That portion of the mouth or lower course of a river, stream, canal or lagoon, in which the fresh or brackish water meets the sea water and is subject to the ebb and flow of the tides.

Estuarine Waters

See Estuary

Eutrophic Conditions

Presence of high concentrations of nutrients causing excessive growth of algae and other aquatic plants in the water body.

Existing Uses

Those uses actually attained in the water body on or after November 28, 1975 whether or not they are included in this Regulation.

Fecal Coliform

The portion of the coliform group found in the intestinal tract of homoiothermic (warm blooded) animals and

used as indicator of the potential presence of pathogenic organisms. This group of organisms is capable of producing gas from lactose broth in a suitable culture medium within 24 hours at 44.5EC ± 0.5EC.

Flocculating Agent
Chemical agent which enhances the agglomeration of suspended solids from a liquid.

Frequency Curve
As used in this Regulation, the term refers to a graph plotted on log probability paper, representing the lowest mean flow of 7 consecutive days against the probability, using the procedures described in Appendix C of the "Environmental Quality Board Waste Load Allocation Guidelines".

Gray Waters
Liquid and solid wastes from kitchens, bathrooms and water-using applicances except those that release or contain black waters.

Ground Water
Sub-surface water present beneath the water table, including waters in caves and caverns when the presence of water results from the manifestation of the characteristics of the saturated zone beneath the water table.

**Habitat**
**Place that meet the suitable conditions to allow that the species live and reproduce**

Hazardous Solid Waste
Any solid waste designated as hazardous by the Board and as defined by the Regulation for the Control of Hazardous and Non-Hazardous Solid Wastes of the Commonwealth of Puerto Rico.

Hazardous Substances
Any substance designated as hazardous under 40 CFR Part 116 pur- suant to Section 311 of the Clean Water Act or as defined by the Regulation for the Control of Hazardous and Non-Hazardous Solid Wastes of the Commonwealth of Puerto Rico.

Immediate vicinity of a discharge
Stream distance required to achieve complete mixing of a discharge.

Indirect Contact Recreation
See Secondary Contact.

Indirect Discharge

Discharge of wastes, other than domestic wastes, into a publicly owned treatment plant which discharges to a water body.

Intermittent Stream

Watercourse where flow, other than from a discharge, occurs only during and following a period of a rainfall within its drainage area.

LA

See Load Allocation (LA)

LC

See Lethal Concentration (LC)

LC 50

(See Lethal Concentration (LC)] **The concentration of effluent , specific substances or combination of these that is lethal to 50% of test organisms exposed during a specific period in a biossay.**

Leachate

Liquid that has percolated through or drained from solid waste and that contains soluble, partially soluble, suspended, or miscible materials, or components removed from such solid waste.

Lethal Concentration (LC)

The concentration of effluent, specific substances or combinations of these, that is lethal to **a given percent** (50%) of the test organisms exposed during a specific period in a biossay. In the case of effluents the concentration is expressed in terms of percent dilution.

Ln Hardness

The logarithm of the numerical value of hardness (as calcium carbonate in mg/l) of the water body to base e. The natural logarithm of the numerical value of hardness (as calcium carbonate in mg/l) of the water body.

Load or Loading

An amount of matter or thermal energy that is introduced into a receiving water body; to introduce matter or thermal energy into a receiving water body; may be either human-induced (pollutant loading) or natural (natural background loading).

Load Allocation (LA)

The portion of a receiving water body's total maximum daily load that is attributed either to one of its existing or future nonpoint sources or to natural background sources of pollution.

Local Water Depth

The depth at the point where the diffuser of an outfall is located under low tide conditions, for ocean outfalls; or low flow conditions, for surface water discharge.

MAEC

See Maximum Allowable Effluent Concentration (MAEC)

Maximum Allowable Effluent Concentration (MAEC)

Maximum effluent concentration of a substance x that is allocated to a point source.

Maximum Daily Load Allowable (MDLA)

Maximum load that can be allocated to point sources without causing a violation to the water quality standards.

Maximum Requested Effluent Concentration (MREC)

Maximum discharge concentration requested by a point source for a substance x.

MBAS

Refers to methylene blue active substances identified in accordance with Standard Method as anionic surfactants (Method 512 B).

MDLA

See Maximum Daily Load Allowable (MDLA)

Mixing Zone

Tridimensional space in a receiving body of water where the discharge is diluted with surrounding waters, which has been defined according to Article 5 of this Regulation. Applicable water quality standards, the CCC and the CMC are met at the boundary of the mixing zone.

Mixing Zone and Bioassay Guidelines

Technical guidelines developed by the Board which describe procedures, methods, models, techniques and organisms to be used to calculate the initial dilution; perform chronic and acute bioassays; to collect field data, or to establish the natural background concentration value, as required to verify compliance with inherent mixing zone conditions. These Guidelines are based on the following EPA publication: "Technical Support Document for Water Quality Based Toxics Control" and Users Guide to the Conduct and Interpretation of Complex Effluent Toxicity Tests at Estuarine/Marine Sites". The guidelines will be revised, as necessary, in accordance with updated versions of these documents or other documents released by EPA which directly impact the guidelines in effect at the time of publication of the final document.

MREC

See Maximum Requested Effluent Concentration (MREC)

Mutagenic Zone

Agent that induces genetic variations due to drastic changes in the organization of the genes in a chromosome.

Natural Background Concentration

The biological, physical and chemical characteristics existing in a water body that is not affected by point of or mainduced nonpoint discharges, as determined by field studies whose content and extension shall be defined according to "Mixing Zone and Bioassay Guidelines", and according to the agreements between the Board and the petitioner, based upon the details of each case when problems arise in the implementation of said Guidelines.

Natural Causes

See Natural Phenomena

Natural Phenomena

Refers to chemical, biological, geological or any other conditions existing at specific sites, not resulting from,or as a consequence of, human intervention, that may cause the standard for a particular parameter not to be met at those sites.

NOEC (No Observed Effect Concentration)

The highest measured continuous concentration of an effluent of a pollutant that causes no detectable effect on an organism used in bioassays.

Non-conservative Pollutant

A pollutant that is not persistent and is subject to decay or transformation.

Non-persistent Pesticides

Those pesticides which do not satisfy the definition of persistent pesticides.

Non-point Source

Any source other than point source, as defined in this Regulation.

Objectionable Odor

Odor considered offensive by the consensus of at least five (5) persons, elected by the Board, when exposed to it. The odor emitted by trees, shrubs, plants, flowers, grass, domestic gardening, and agricultural processes and the use of fertilizers (except for the use of sugarcane wastes), will not be considered objectionable.

Open Coastal Waters

All the coastal waters, except bays and estuaries, with formations that significantly mitigate the direct impact of the waves on the shore.

Outfall

Pipe or conduit which conveys an effluent to a receiving body of water.

Passageway

A continuous stretch where water characteristics are affected only by natural conditions in such a manner that the free movement, flow or continuous drifting of biota is always possible.

Pathogenic Organism

Any microorganism, virus or bacteria that may cause disease.

Pelagic Species

Organisms that have the ability of self locomotion and can overcome the currents. These organisms can be found anywhere in the water column, near the surface, the bottom or at any point between the surface and the bottom.

Persistent Agent

An agent which degrades or decomposes slowly, biologically or chemically, in the natural environment.

Persistent Pesticides

Pesticides not easily degradable under natural conditions and which initial concentration remains relatively unchanged for periods longer than 96 hours.

Person

Any juridical or natural person; any agency, department, board, public or quasi-public corporation, municipality of the Commonwealth of Puerto Rico or the Government of the United States of America, any association, corporation, cooperative, trust, partnership, or group of persons.

Planktonic Species

Marine organisms that mainly inhabit the surface of the receiving body of water. Their main characteristic is that they cannot overcome the currents even if they have self locomotion.

Point of Discharge

Point where the effluent is discharged, treated or untreated, before mixing with the receiving water.

Point Source

Any discernible, confined and discrete conveyance, including, but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, mobile homes, mobile cafeterias or any other vehicle, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged.

Pollutant

Pollutants include but are not limited to: dredge spoil, refuse, solid waste, incinerator residue, filter backwash, gray waters, black waters, waste waters, sewage, sewage sludge, munitions, chemical materials, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, industrial, municipal, domestic, animal or agricultural waste, or any substance and/or material including sediments and other substances carried by stormwater runoff induced by man.

Pollution

The presence of **one or more pollutans in levels that not meet the designated uses.** any pollutant.

Pollution Source

Any source, activity, building, structure, facility, vessel or installation generating, emitting, discharging, storing or transporting pollutants.

Port

Orifice of the diffuser.

Primary Contact

Any recreational activity, including swimming, or other uses in which there is prolonged and direct contact with the water involving considerable likelihood of ingestion in quantities sufficient to pose a significant health hazard or in which there is complete immersion of sensitive organs such as eyes, nose and ears.

Priority Pollutant

Refers to pollutants identified by the Environmental Protection Agency in accordance with Section 307(a) of the Clean Water Act, as amended.

Propagation and Preservation of Desirable Species

This refers to the reproduction and continuance of flora and fauna associated with water bodies and which have ecologic importance and/or commercial value, whether individually or as part of an ecological community.

Public Policy Environmental Act

Law No. 9 of June 18, 1970, as amended.

Receiving Waters

See Receiving Water Body.

Receiving Water Body

Any water body, as defined in this Regulation, or segment, portion or part of such water body onto or into which a discharge is made.

R

See Reserve (R)

Recharge Area

That portion of the drainage area, as defined in this Regulation, in which water, as result of rainfall infiltration or seepage from surface waters, enters an aquifer system.

Refuse

All waste material including, but not limited to garbage, rubbish, incinerator residues, street sweeping, dead animals, and animal wastes.

Reserve (R)

Portion of the maximum daily allowable load reserved as an allowance for economic development and population growth.

Sampling Point

Point determined by the Board to evaluate compliance with permits, orders, authorizations or applicable water quality standards. In cases concerning NPDES permits, the sampling point may be determined by EPA or the Board.

Sanitary Waste

See Domestic Waste.

Secondary Contact

Any recreational activity such as fishing or other use in which contact with the water is indirect and in which sensitive organs such as eyes, nose and ears are not immersed.

Secondary Treatment

Treatment of sewage wastewaters to such a degree that the effluent quality meets the requirements of 40 CFR Part 133 as revised.

Sequentially

Refers to the manner in which the representative series of samples is taken to determine the geometric mean. The sampling internal used for each samples in the series should be uniform for each series. Example: A series of samples taken at hourly intervals, daily intervals, or weekly intervals.

Seven Day Low Flow

Refers to the flow at a given recurrence interval taken from a frequency curve of annual values of the lowest mean flow for 7 consecutive days. For example 7 day low flow, "n"-years (7Qn) refers to the low flow in 7 days at a recurrence interval of "n" years.

Sewage

Sanitary wastes from humans and animals coming from households, commercial establishments, industries, public and private buildings, farms and others places that are discharged to a publicly and/or non publicly owned treatment plant.

Significant Public Health Risk

Contingency of a direct or indirect injury to human well being. The hazard of the occurrence of an acute or chronic effect on the health including (but not limited to) diseases, epidemics, mutations or deformations in humans.

Solid Wastes

Any waste designated as solid by the Board and as defined by the Regulation for the Control of Hazardous and Non-Hazardous Solid Wastes of the Commonwealth of Puerto Rico.

Source

See Pollution Source.

Standard Method

Refers to "Standard Methods for the Examination of Water and Wastewater" 16th Edition (1985) or the most recent approved edition under 40 CFR Part 136.

Stormwater Runoff

For the purposes of this Regulation the term refers to flows of water, resulting from rainfall, that enter the water bodies.

Stratified Lake

In its simplest form refers to a lake with layers of water at different temperatures and densities. The upper layer with relatively high temperatures and low densities in comparison with the lower layer which has lower temperatures and higher densities. Between these two layers is a transitional layer with a marked temperature and density gradient that prevents the mixing of the upper and lower layers.

Submerged Outfall

Pipe or conduit which conveys an effluent to the discharge point in a receiving body of water. The pipe or conduit is located along the bottom of the waterbody.

Surface Waters

Any natural or artificial water source including all streams, lakes, reservoirs, inland watercourse and waterways, springs, irrigation systems, drainage systems, intermittent streams and all other inland water bodies or accumulated waters. For the purpose of this Regulation the term does not include coastal waters and estuarine waters as defined in this Regulation.

Surfactants

See MBAS

Synergistic Effect

Occurs when two (2) or more substances, which in the original state could be harmless, react to each other and cause a toxicity which is greater than the sum of the individual toxicity of each substance.

Teratogenic Agent

Agent which induces anomalies in the fetal development.

Thermal Discharge

Emission of heat or substances with heat which temperature causes the receiving water body to exceed the temperature of 30EC.

TMDL

See Total Maximum Daily Load (TMDL)

Topographic Divide

Line along the ground that separates the rainfall surface runoff between two different drainage areas.

Total Coliform

See Coliform Group

Total Maximum Daily Load (TMDL)

The total allowable pollutant load to a receiving water body such that any additional loading will produce a violation of water quality standards.

Toxic Substances

Those substances or combinations thereof, including disease causing agents, which after being discharged and after their exposure, ingestion, inhalation or assimilation by any organism, directly from the environment or indirectly by means of ingestion through the food chain; can be the cause, based on the available information to the Board and to EPA, of death, illness, abnormal behavior, cancer, genetic mutation, physiologic malfunctioning (including malfunction in reproduction), or physical deformations, in said organisms or their descendants.

TUa

See acute toxic unit definition.

TUc

See chronic toxic unit definition.

Waste Load Allocation (WLA)

The portion of a receiving water's total maximum daily load (TMDL) that is allocated to one of its existing or future point sources of pollution.

Waste Load Allocation Guidelines (WLAG)

Technical guidelines developed by the Board which describe procedures, methods, techniques and other related matters to be used by the Board to perform waste load allocations.

Wastewaters

Waters containing dissolved, suspended, agglomerated, emulsified or floating substances or solid pollutants resulting from industrial, commercial, residential, agricultural, recreational or any other type of establishment or man induced activity.

Wastewater Treatment Facilities

See Water Pollution Control Facilities or Equipment.

Water Body

See Waters of Puerto Rico.

Water Pollutant

See Pollutant.

Water Pollutant Control Facilities or Equipment

Any process, equipment, device, and all appurtenances thereto, used for eliminating, reducing, or controlling the discharge of any pollutant.

Water Quality Standards

The designated water body uses and classifications, the criteria to protect those uses, and the anti-degradation policy.

Water Table

The soil depth at which the pressure of the saturated zone is equal to atmospheric pressure.

Waters

See Waters of Puerto Rico .

Waters of Puerto Rico

All coastal waters, surface waters, estuarine waters, ground waters and wetlands as defined in this Regulation.

Watershed

See Drainage Area.

Wetlands

Areas inundated or saturated by coastal, surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions.

WLA

See Waste Load Allocation (WLA)

WLAG

See Waste Load Allocation Guidelines (WLAG)

## ARTICLE 2 - CLASSIFICATION OF THE WATERS OF PUERTO RICO ACCORDING TO THE DESIGNATED USES TO BE PROTECTED

2.1 Coastal Waters Coastal and Estuarine Waters:

2.1.1 Class SA:

Class SA includes bioluminiscent lagoons and bays such as La Parguera and Monsio José on the Southern Coast, Bahía de Mosquito in Vieques, and any other coastal or estuarine waters of exceptional quality of high ecological value or recreational which may be designated by the Board, through Resolution, as requiring this classification for protection of the waters. Section 3.2.1(B) of Article 3 of this Regulation will also apply to the waters 500 meters seaward of the physical and geographical limits of the bodies of water under this classification.

2.1.2 Class SB:

Class SB includes the coastal and estuarine waters not classified under sections 2.1.1 and 2.1.3 of this Article. Class SB also includes lagoons not classified under any other class. This classification will apply from the zone subject to the ebb and flow of tides (mean sea level) up to 500 meters seaward from said zone. Beyond this limit, the next less restrictive classification will apply to a maximum of 10.3 nautical miles seaward.

2.1.2.1 Shellfish growing areas:

Those areas that may be designated by the Board, through Resolution, as shellfish growing areas. The existing water quality regulations established by both the U.S. Public Health Service and the Department of Health of the Commonwealth of Puerto Rico shall be applied to this classification. This classification will apply 100 meters beyond the physical and geographical areas limiting the shellfish growing areas.

2.1.3 Class SC:

Class SC includes the segments of coastal waters identified below. The classification of these waters shall be applied from the zone subject to the ebb and flow of tides (mean sea level) to 10.3 nautical miles seaward.

A. **Mayaguez Bay - From Punta Guanajibo to Punta Algarrobo.**
B. **Yabucoa Port.**
C. **Guayanilla and Tallaboa Bays - From Cayo Parguera to Punta Verraco.**
D. **Ponce Port - From Punta Carenero to Punta Cuchara.**
E. **San Juan Port - From the mouth of Río Bayamón to Punta El Morro.**

2.2 Surface Waters:

2.2.1 Class SD:

All surface waters are classified SD, except those classified SE in accordance with Section 2.2.2 of this Article.

2.2.2 Class SE:

Laguna Tortuguero, Laguna Cartagena and any other surface water bodies of exceptional ecological value as may be designated by the Board through Resolution.

2.3 Ground Waters:

2.3.1 Class SG:

This classification includes all ground waters as defined in this Regulation.

2.3.1.1Class SG1

Includes those ground waters which serve or have the potential to serve as source of drinking water supply and agricultural uses including irrigation. Also included under this class are those groundwaters that flow into waters which support ecological communities of exceptional ecological value in accordance with Sections 2.1.1 or 2.2.2 of this Regulation

2.3.1.2 Class SG2

Includes groundwaters which due to the high total dissolved solids concentration (concentrations greater than 10,000 mg/l) are not fit as source of drinking water supply even after treatment.

# ARTICLE 3 - WATER QUALITY STANDARDS AND USE CLASSIFICATIONS TO BE PROTECTED IN THE WATERS OF PUERTO RICO

Pursuant to the intent of this Regulation, the following water quality standards and use classifications are promulgated for the protection of the uses assigned to the classifications of the coastal, surface, estuarine, wetlands ,and ground waters of the Commonwealth of Puerto Rico.

The following water quality standards shall apply at all times, except in:

(1) surface waters during periods when their flows are less than the average minimum seven day low flow which occurs once in any two consecutive years.

(2) waters within mixing zones authorized by this Board pursuant to Article 5 of this Regulation.

(3) surface, coastal, estuarine and ground waters where it is demonstrated to the satisfaction of the Board that the natural background concentration exceeds the established water quality standards.

(4) surface waters in the immediate vicinity of a discharge for which a wasteload allocation has been authorized by this Board pursuant to Article 10 of this Regulation.

(5) intermittent streams when the conditions of Section 4.3 of this Regulation are met.

3.1 General Water Quality Standards:

All waters shall meet generally accepted aesthetic qualifications. These waters shall, except as specifically noted, meet the following quality standards;

3.1.1 Solids and Other Matter:

The waters of Puerto Rico shall not contain floating debris, scum and other floating materials attributable to discharges in amounts sufficient to be unsightly or deleterious to the existing or designated uses of the waterbody.

3.1.2 Color, Odor, Taste and Turbidity:

The waters of Puerto Rico shall be free from color, odor, taste and turbidity attributable to discharges in such a degree as to create a nuisance to the enjoyment of the existing or designated uses of the waterbody.

3.1.3 Radioactive Materials

In the waters of Puerto Rico the concentration of Radium-226 and Strontium-90 shall not exceed 3 and 10 picocuries per liter respectively. In the absence of Strontium-90 and alpha emitters the gross beta concentrations shall not exceed 1,000 picocuries per liter.

3.1.4 Temperature:

(A) Except by natural causes, no heat may be added to the waters of Puerto Rico which would cause the temperature of any site to exceed 90EF or 32.2EC.

(B) No thermal discharge or combination of thermal discharges into or onto the surface, estuarine and coastal waters shall be injurious to fish or shellfish or the culture or propagation of a balanced indigenous population there of nor in anyway affect the designated uses.

(C) In stratified lakes, thermal discharges shall be confined to the epilimnetic layer.

(D) No thermal discharge or combination of thermal discharges shall be made to ground waters.

3.1.5 Suspended, Colloidal or Settleable Solids:

Solids from wastewater sources shall not cause deposition in or be deleterious to the existing or designated uses of the waters.

3.1.6 Biochemical Oxygen Demand:

The allowable level of biochemical oxygen demand of wastewater sources will be determined on a case by case basis depending on the assimilative capacity of the receiving water body. Such determination will be performed to assure compliance with the dissolved oxygen standard applicable to the receiving water body.

3.1.7 Asbestos

In order to assure for the protection of human health from the potential carcinogenic effects of exposure to asbestos the waters of Puerto Rico shall not exceed 7 MFL (million fibers per liter) of asbestos, except when established that such presence is due to the natural occurrence of geologic deposits of asbestiform minerals.

3.1.8 Oil and Grease

The waters of Puerto Rico shall be substantially free from floating non-petroleum oils and greases as well as petroleum derived oils and greases.

3.1.9 Substances in Toxic Concentrations and Synergistic Toxic Effects:

The waters of Puerto Rico shall not contain any substance at such concentration which, either

alone or as result of synergistic effects with other substances is toxic or produces undesirable physiological responses in human, fish or other fauna or flora. In Sections 3.1.9(A), 3.1.9(B), and 3.1.9(C) are identified specific substances for which numeric water quality standards have been established.

3.1.9(A) Specific Standards for Inorganic Substances:

The maximum allowable concentration of these specific substances in coastal, surface, estuarine and groundwaters shall not exceed the following at any time:

SUBSTANCECOASTAL/ESTUARINE WATERS ug/lSURFACE WATERS ug/lGROUND WATERS ug/l +* Antimony4,300 (AL)14.0 (HH)5.0 (DW)+* Arsenic (As)1.4 (AL)0.18 (HH)50.0 (DW)+% Cadmium (Cd)9.30 (AL)Note 1 (AL)5.00 (DW)+ Chromium III (Cr)Note 2 (AL)+ Chromium VI11.0 (AL)+ Copper (Cu)3.1(AL) Note 3 (AL)1300 (DW)+ Cyanide (CN)1 (AL) 5.2(AL)200 (DW)# Fluoride (F)700.0 (DW)+% Lead (Pb)8.1 (AL) 15.0Note 6 (AL)15.0 (DW)+ Mercury (Hg)0.051 (HH,AL)0.050 (HH, AL)2.0 (DW)+ Nickel8.2 (AL).Note 4 (AL)Nitrate plus Nitrite (as N)10,000 (DW)Nitrogen (NO3, NO2, NH3 )5000+ Selenium (Se)71.0 (AL)5.0 (AL)50.0 (DW)+ Silver (Ag)2.0 (AL)Note 5 (AL)Sulfide (S) (undissociated H2S)2.0 (AL)2.0 (AL)+ Zinc (Zn)81.0 (AL)Note 7 (AL)

LEGEND:

Note 1. Concentration in ug/l must not exceed the numerical value given by e(0.7852 [Ln Hardness]-2.715)
Note 2. Concentration in ug/l must not exceed the numerical value given by e(0.8190 [Ln Hardness]+0.6848)
Note 3. Concentration in ug/l must not exceed the numerical value given by e(0.8545 [Ln Hardness]-1.702)
Note 4. Concentration in ug/l must not exceed the numerical value given by e(0.8460 [Ln Hardness]+0.058)
Note 5. Concentration in ug/l must not exceed the numerical value given by e(1.72 [Ln Hardness] - 6.52)
Note 6. Concentration in ug/l must not exceed the numerical value given by e(1.273 [Ln Hardness] - 4.705)
Note 7. Concentration in ug/l must not exceed the numerical value given by e(0.8473 [Ln Hardness] +0.884)

Identification codes for the applicability of standards to uses, both designated and existing uses.

AL = Protection of the waterbody for the propagation and preservation of species dependent on the waterbody.

DW = Protection of the waterbody for use as source of drinking water supply.

HH = Protection of the waterbody or aquatic life for reasons of human health.

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* = Identifies a substance that may be a carcinogen.
+ = Identifies a priority pollutant.
# = Identifies a substance which numeric standard for coastal waters will be evaluated to determine the feasibility of eliminating it.
% = In cases where the surface water body is used as a source of drinking water supply, the water quality standard for the indicated substance shall not exceed the drinking water standard upstream from the water intake.

3.1.9(B) Specific Standards for Pesticides:

1. Organochlorides and Other Persistent Pesticides:

   Organochloride and other persistent pesticides residues in surface, ground, estuarine and coastal waters shall not exceed 1/100 of the 96 hr LC50 of species approved by the Board. In

the specific case of the pesticides identified below, the concentration shall not exceed the value listed below (micro-grams per liter or ppb):

| | Substance | Coastal/Estuarine Waters (ug/l) | Surface Waters (ug/l) | Ground Waters (ug/l) |
|---|---|---|---|---|
| +* | Aldrin | 0.0014 (HH) | 0.0013 (HH) | - |
| +* | Dieldrin | 0.0014 (HH) | 0.0014 (HH) | - |
| +* | Chlordane | 0.004 (HL) | 0.0043 (AL) | 0.2 (AP) b* |
| +* | DDT and Metabolites | 0.001 (AL) | 0.001 (AL) | - |
| + | Endosulfan | 0.087 (AL) | 0.056 (AL) | 0.056 (AL) (a) |
| + | Endrin | 0.0023 (AL) | 0.036 (AL) | 0.0023 (AL) (a) |
| +* | Heptachlor | 0.0021 (HH) | 0.0021 (HH) | 40.0 (DW) (b) |
| +* | Lindane (Gamma BHC) | 0.16 (AL) | 0.19 (HH) | 3.0 (DW) (b) |
| | Metoxichlor | 0.03 (AL) | 0.03 (AL) | 3.0 (DW |
| | Mirex | 0.001 (AL) | 0.001 (AL) | - |
| + | Pentachlorophenol | 7.9 (AL) | 2.8 (HH) | 2.8 (AL)(a)/50 DW)(b) |
| +* | Toxaphene | 0.0002 (AL) | 0.0002 (AL) | 3.0 (DW) |

(a) = For groundwaters that flow into stream beds, estuarine waters or wetlands.
(AL,), (HH), (DW),*, +: See legend in table of Section 3.1.9(A)(1).
(b) = For groundwaters that are used or can be used as a source of of drinking water.

3.1.9 (B) Specific Standards for Pesticides:

2. Organothiophosphorus and other Non-persistent Pesticides:

Organothiophosphorus and other non-persistent pesticides residues in surface, ground, estuarine and coastal waters shall not exceed 1/10 of the 96 hr

LC50 of species approved by the Board. In no case shall the following pesticides exceed the concentration (micrograms per liter or ppb) listed:

| Substance | Coastal/Estuarine Waters (ug/l) | Surface Waters (ug/l) | Ground Waters (ug/) |
|---|---|---|---|
| Azinphos - Methyl | 0.01 (AL) | 0.01 (AL) | 0.01 (AL) (a) |
| Chlorpyrifos | 0.0056 (AL) | 0.041 (AL) | 0.041 (AL) (a) |
| Coumaphos | 0.010 (AL) | 0.010 (AL) | 0.010 (AL) (a) |
| 2,4 - D | - | 100.0 (DW) | 100.0 (DW) |
| + Demeton | 0.10 (AL) | 0.10 (AL) | 0.10 (AL) (a) |
| Fenthion | 40 (AL) | 0.40 (AL) | 0.40 (AL) (a) |
| Malathion | 0.10 (AL) | 0.10 (AL) | 0.10 (AL) (a) |
| Naled | 0.40 (AL) | 0.40 (AL) | 0.40 (AL) (a) |
| Parathion | - | 0.013 (AL) | 0.013 (AL) (a) |
| 2,4,5 - TP (Silvex) | - | 10.0 (DW) | 50.0 (AL) (a) |

(a) = For groundwaters that flow into stream beds, estuarine waters or wetlands.
(AL), (DW), +: See Legend in table of Section 3.1.9(A)(1).

3.1.9(B) Specific Standards for Pesticides:

3. Pesticides in Ground Water Class SG1: Ground waters shall be free of all persistent pesticides that affect

human health.

3.1.9(C) Specific Standards for Non-Pesticide Organic Substances and Carbon Tetrachloride.

These specific substances shall not exceed the maximum allowable concentration, at any time in coastal, surface, estuarine and ground waters.

| SUBSTANCE | CLASSES SB & SC (ug/l) | CLASS SD (ug/l) | CLASS SG1 (ug/l) |
|---|---|---|---|
| +* Benzene | 710.0 (HH) | 12 (HH) | 5.0 (DW) |
| +*2-Chlorophenol | 400 (HH) | 120 (HH) | - |
| +*2,4- Dichlorophenol | 790 (HH) | 93 (HH) | - |
| +*2,4- Dimethylphenol | 2,300 (HH) | 540 (HH) | - |
| +*2-Methyl -4,6- Dinitrophenol | 765 (HH) | 13.4 (HH) | - |
| +*2,4- Dinitrophenol | 14,000 (HH) | 70 (HH) | - |
| +*Phenol | 4,600,000 (HH) | 21,000 (HH) | - |
| +*2,4,6- Trichlorophenol | 65 (HH) | 21 (HH) | |
| +* Carbon Tetrachloride | 44.0 (HH) | 2.5 (HH) | 5.0 (DW) |
| +* 1,2 Dichlorobenzene | 17,000 (HH) | 2,700 (HH) | - |
| +* 1,3 Dichlorobenzene | 2,600 (HH) | 400 (HH) | - |
| +* 1,4 Dichlorobenzene | 2,600 (HH) | 400 (HH) | - |
| +* 1,2-Dichloroethane | 990.0 (HH) | 3.8 (HH) | 5.0 (DW) |
| +* 1,1-Dichloroethylene | 32 (HH) | 0.57 (HH) | 7.0 (DW) |
| +* Tetrachloroethylene | 88.5 (HH) | 8.0 (HH) | 5.0 (HH) |
| + 1,1,1-Trichloroethane | 1,030.0 (HH) | 200.0 (HH) | 200.0 (DW) |
| +* Trichloroethylene | 810.0 (HH) | 27.0 (HH) | 5.0 (DW) |
| +* Vinyl Chloride | 5,250.0 (HH) | 2.0 (HH) | 2.0 (DW) |

(DW), (HH), *, +: See Legend in table of Section 3.1.9(A)(1)

3.1.9(D) Specific Standards for Volatile Organic Substances

These specific substances shall not exceed the maximum allowable concentration, at any time in coastal, surface, estuarine and ground waters.

| SUBSTANCE | CLASSES SB & SC (ug/l) | CLASS SD (ug/l) | CLASS SG1 (ug/l) |
|---|---|---|---|
| +*Acrolein | 780 (HH) | 320 (HH) | - |
| +*Acrilonitryl | 6.6 (HH) | 0.59 (HH) | - |
| +*Benzene | 710 (HH) | 12 (HH) | 5.0 (DW) |
| +*Bromoform | 3,600 (HH) | 43 (HH) | - |
| +*Chlorobenzene | 21,000 (HH) | 680 (HH) | 100 (DW) |
| +*Chlorodibromomethane | 340 (HH) | 4.1 (HH) | - |
| +*Chloroform | 4,700 (HH) | 57 (HH) | 100 (DW) |
| +*Dichlorobromomethane | 460 (HH) | 5.6 (HH) | 5.0 (DW) |
| +*1,2 Dichloropropane | 390 (HH) | 5.2 (HH) | - |
| +*1,3 Dichloropropane | 1,700 (HH) | 10 (HH) | - |
| +*Ethylbenzene | 29,000 (HH) | 3,100 (HH) | 700 (DW) |
| +*Methyl Bromide | 4,000 (HH) | 48 (HH) | - |
| +*Methylene Chloride | 16,000 (HH) | 470 (HH) | - |
| +*1,1,2,2 Tetrachloroethane | 110 (HH) | 1.7 (HH) | - |
| +*1,2,4 Trichlorobenzene | 940 (HH) | 260 (HH) | 9.0 (DW) |
| + 1,1,2 Trichloroethane | 420 (HH) | 6.0 (HH) | 5.0 (DW) |

3.1.9(E) Specific Standards for Semi-Volatile Organic Substances

These specific substances shall not exceed the maximum allowable concentration, at any time in coastal, surface, estuarine and ground waters.

| | SUBSTANCE | CLASSES SB & SC (ug/l) | CLASS SD (ug/l) | CLASS SG1 (ug/l) |
|---|---|---|---|---|
| +* | Acenaphthene | 2,700 (HH) | 1,200 (HH) | - |
| +* | Anthracene | 110,000 (HH) | 9,600 (HH) | - |
| +* | Benzidine | 0.0054 (HH) | 0.0012 (HH) | - |
| +* | BenzoaAnthracene | 0.49 (HH) | 0.044 (HH) | - |
| +* | BenzoaPyrene | 0.49 (HH) | 0.044 (HH) | - |
| +* | BenzobFluoranthene | 0.49 (HH) | 0.044 (HH) | - |
| +* | BenzokFluoranthene | 0.49 (HH) | 0.044 (HH) | - |
| +* | Bis2-ChloroethylEther | 14.0 (HH) | 0.31 (HH) | - |
| +* | Bis2-ChloroisopropylEther | 170,000 (HH) | 1,400 (HH) | - |
| +* | Bis2-EthylhexylPhthalate | 59 (HH) | 18 (HH) | - |
| +* | Butylbenzyl Pthalate | 5,200 (HH) | 3,000 (HH) | - |
| +* | 2-Chloronaphthalene | 4,300 (HH) | 1,700 (HH) | - |
| +* | Chrysene | 0.49 (HH) | 0.044 (HH) | - |
| +* | DibenzoahAnthracene | 0.49 (HH) | 0.044 (HH) | - |
| +* | 3,3-Dichlorobenzidine | 0.77 (HH) | 0.4 (HH) | - |
| +* | Diethyl PhthalateW | 120,000 (HH) | 23,000 (HH) | - |
| +* | Dimethyl PhthalateW | 2,900,000 (HH) | 313,000 (HH) | - |
| +* | Di-n-Butyl PhthalateW | 12,000 (HH) | 2,700 (HH) | - |
| +* | 2,4-Dinitrotoluene | 9.1 (HH) | 0.11 (HH) | - |
| +* | 1,2-Diphenylhydrazine | 5.4 (HH) | 0.40 (HH) | - |
| +* | Fluoranthene | 370 (HH) | 300 (HH) | - |
| +* | Fluorene | 14,000 (HH) | 1,300 (HH) | - |
| +* | Hexachlorobenzene | 0.0077 (HH) | 0.0075 (HH) | - |
| +* | Hexachlorobutadiene | 500 (HH) | 4.4 (HH) | - |
| +* | Hexachlorocyclopentadiene | 17,000 (HH) | 240 (HH) | 50 (DW) |
| +* | Hexachloroethane | 89.0 (HH) | 19.0 (HH) | - |
| +* | Ideno 1,2,3-cdPyrene | 0.49 (HH) | 0.044 (HH) | - |
| +* | Isophorone | 26,000 (HH) | 360 (HH) | - |
| +* | Nitrobenzene | 1,900 (HH) | 17.0 (HH) | - |
| +* | N-Nitrosodimethylamine | 81.0 (HH) | 0.0069 (HH) | - |
| +* | N-Nitrosodiphenylamine | 160 (HH) | 50 (HH) | - |
| +* | N-Nitrosodi-n-Propylamine | 14.0 (HH) | 0.05 (HH) | - |
| +* | Pyrene | 11,000 (HH) | 960 (HH) | - |
| +* | Toluene | 200,000 (HH) | 6,800 (HH) | 1,000 (DW) |
| +* | 1,2-Trans-Dichloroethylene | 140,000 (HH) | 700 (HH) | - |

3.1.10 Synergistic Toxic Effects:

The waters of Puerto Rico shall not contain two or more substances in concentrations whose combination will result in synergistic toxic effects or which will produce chronic or other undesirable physiological responses in humans, fish or other fauna or flora.

3.2 Use Classifications and Water Quality Standards for Specific Classifications:

3.2.1 Class SA:

(A) Usages and Description:

Coastal waters and estuarine waters of high quality and/or exceptional ecological or recreational value whose existing characteristics shall not be altered, except by natural causes, in order to preserve the existing natural phenomena.

(B) Standards:

No parameter, whether or not considered in this Article, shall be altered in concentration, except by natural causes. Substances reactive with methylene blue shall not be present.

3.2.2 Class SB:

(A) Usages and Description:

Coastal waters and estuarine waters intended for use in primary and secondary contact recreation, and for propagation and preservation of desirable species, including threatened or endangered species.

(B) Standards:

1. Dissolved Oxygen:

Shall not contain less than 5 mg/l, except when natural phenomena cause this value to be depressed.

2. Coliforms:

The fecal coliform geometric mean of a series of representative samples (at least five samples) of the waters taken sequentially shall not exceed 200 colonies/100 ml, and not more than 20 percent of the samples shall exceed 400 colonies/100 ml. In waters intensely used for primary contact recreation, like special bathing zones (beaches) the enterococci density in terms of geometric mean of at least five representative samples taken sequentially shall not exceed 35/100 ml. No single sample should exceed the upper confidence limit of 75 % using 0.7 as the log standard deviation until sufficient site data exist to establish a site-specific log

standard deviation.

3. pH:
In no case the pH will lie outside the range of 7.3 and 8.5, standard pH units, except when caused by natural phenomena.

4. Color:
Shall not be altered except by natural causes.

5. Turbidity:
Shall not exceed 10 nephelometric turbidity units (NTU), except by natural causes.

6. Taste and Odor Producing Substances:
Shall not be present in amounts that will interfere with primary contact recreation or will render any undesirable taste and/or odor to edible aquatic life.

7. Sulfates:
For SB estuarine waters, sulfates shall not exceed 2,800 mg/l.

8. Surfactants as MBAS:
Shall not exceed 500 ug/l.

3.2.3 Class SC:

(A) Usages and Description:
Coastal waters intended for uses where the human body may come in indirect contact with the water (such as fishing, boating, etc.), and for use in propagation and preservation of desirable species, including threatened or endangered species.

(B) Standards:

1- Dissolved Oxygen
Shall contain not less than 4 mg/l except when natural conditions cause this value to be depressed.

2- Coliforms
The coliform geometric mean of a series of representative samples (at

least five samples) of the waters taken sequentially shall not exceed 10,000 colonies/100 ml of total coliforms or 2,000 colonies/100ml of fecal coliforms. Not more than 20 percent of the samples shall exceed 4,000 colonies/100 ml of fecal coliforms.

3- pH

In no case the pH will lie outside of 7.3 and 8.5, except when caused by natural phenomena.

4- Color

Shall not be altered by other than natural phenomena except when it can be proven that such change in color is harmless to biota and aesthetically acceptable.

5- Turbidity

Shall not exceed 10 nephelometric turbidity units (NTU).

6- Taste and odor producing substances

Shall contain none in amounts that will render any underable taste or odor to edible aquatic life.

7- Sulfates

For estuarine waters classified SC, sulfates shall not exceed 2,800 mg/l.

8- Surfactants as MBAS:

Shall not exceed 500 ug/l.

3.2.4 Class SD:

(A) Usages and Description:

Surface waters intended for use as a raw source of public water supply, propagation and preservation of desirable species, including threatened or endangered species, as well as primary and secondary contact recreation. Primary contact recreation is precluded in any stream or segment that does not comply with Section 3.2.4(B)12 of this Article until such stream or segment meets the goal of the referred section.

(B) Standards:

1. Dissolved Oxygen:

Shall contain not less than 5.0 mg/l except when natural conditions cause this value to be depressed.

2. Coliforms:

   The coliform geometric mean of a series of representative samples (at least five samples) of the waters taken sequentially shall not exceed 10,000 colonies/100 ml of total coliform or 200 colonies/100 ml of fecal coliforms. Not more than 20 percent of the samples shall exceed 400 colonies/100 ml of fecal coliforms.

3. pH:

   Shall always lie between 6.0 and 9.0 except when natural phenomena cause the value of pH to fall outside this range.

4. Color:

   Shall not exceed 15 units according to the colorimetric platinum-cobalt standard, except when due to natural phenomena. In cases where the water body normally exceeds this value, the mechanism provided under Section 6.10 of this Regulation may be used to develop site-specific criteria.

5. Turbidity:

   Shall not exceed 50 nephelometric turbidity units (NTU), except when due to natural phenomena.

6. Total Dissolved Solids:

   Shall not exceed 500 mg/l, except when due to natural phenomena.

7. Taste and Odor Producing Substances:

   Shall not be present in amounts that will interfere with the use for potable water

supply, or will render any undesirable taste and/or odor to edible aquatic life.

8. Total Phosphorus:

Total phosphorus shall not exceed 1 ppm (mg/), in surface water bodies upstream from reservoirs, in segments of surface water bodies with drinking water intakes or estuarine waters except when it is demonstrated to the satisfaction of the Board that a higher value of total phosphorus in combination with prevailing nitrogen derived nutrients will not contribute to eutrophic conditions in the water body.

9. Surfactants as MBAS:

Shall not exceed 100 ug/l.

10. Sulfates:

Shall not exceed 250 mg/l, except when due to natural phenomena.

11. Chlorides:

Shall not exceed 250 mg/l, except when due to natural phenomena.

12. Other Pathogenic Organisms:

These waters shall be free of other pathogenic organisms.

13. Total Ammonia:

Total ammonia shall not exceed 1 mg/l upstream from the points given by coordi nates for the following segments:

Río Cibuco - 18E21'13" / 66E20'07"
Río Hondo - 18E26'13" / 66E09'36"
Río Guaynabo - 18E22'32" / 66E07'59"
Río Bayamón - 18E24'39" / 66E09'09"
Río Piedras - 18E24'34" / 66E04'10"
Quebrada Blasina - 18E23'27" / 65E58'28"
Río Caguitas - 18E15'11" / 66E01'26"
Río Bairoa - 18E15'28" / 66E02'13"
Río Chico - 17E59'16" / 66E00'18"
Río Coamo - 18E03'52" / 66E22'10"
Río Guayanilla - 18E00'50" / 66E47'04"
Río Guanajibo - 18E07'18" / 67E03'56"

3.2.5 Class SE:

(A) Usages and Description:

Surface waters and wetlands of exceptional ecological value, whose existing characteristics should not be altered in order to preserve the existing natural phenomena.

(B) Standards:

No parameter, whether or not considered in this Article, shall be altered in concentration, except by natural causes. Substances reactive with methylene blue shall not be present.

3.2.6 Class SG1:

(A) Usages and Description:

Ground waters intended for use as source of drinking water supply and agricultural uses including irrigation. Also included under this class are those groundwaters that flow into waters which support ecological communities of exceptional ecological value in accordance with Sections 2.1.1 and 2.2.2 of this Regulation.

(B) Standards:

1. Dissolved Gases:

   The composition, combination and concentration of dissolved gases shall not be altered except by natural causes.

2. Coliforms:

   Fecal coliforms shall not exceed 0/100 ml in any sample by the MF (Membrane Filter) method.

3. pH:

   Shall not be altered except by natural causes.

4. Color:

   Shall not be altered except by natural causes.

5. Turbidity:

   Shall not be altered except by natural causes.

6. Total Dissolved Solids:
   Shall not be altered except by natural causes. Here the term natural causes does not include salt water intrusion, unless this results from severe draught conditions.

7. Taste and Odor Producing Substances:
   Shall not be altered except by natural causes.

8. Surfactants as MBAS:
   Shall not be present.

## ARTICLE 4 - INTERMITTENT STREAMS

4.1 General:

Point sources may be relieved from complying with the applicable provisions of Article 3, of this Regulation if the applicant demonstrates to the satisfaction of the Board that the source is discharging into an intermittent stream and that the conditions specified elsewhere in this Article are met.

4.2 Application for Relief:

4.2.1 Content of the Application:

The application shall contain the following:

(A) Evidence to the satisfaction of the Board that the water course is intermittent, including an evaluation of the physical and hydrological characteristics of the stream bed. Such evidence must be certified by an engineer licensed to practice in Puerto Rico, a geologist, a hydrologist or a hydrogeologist.

(B) A map which displays:

1. The intermittent stream under consideration, including the name of such body where available;

2. The location of all existing, proposed and anticipated discharges in the affected watershed;

3. The location of the nearest downstream enduring water body;

4. The location of water supply intakes for humans and farm animals in the intermittent stream, if any, and the intakes downstream from the intermittent stream;

5. The location of wetlands adjacent or associated with the intermittent stream and the nearest downstream watercourse not found to be an intermittent stream;

6. The location of karst or water recharge areas within the intermittent stream;

Non-point source activities in the immediate watershed of the intermittent stream.

(C) Itemization of existing recreational uses.

If no recreational uses are given to the intermittent stream, a certification to that effect will be required from the Department of Sports and Recreation and from the Mayor(s) of the municipality(ies) where the intermittent stream is located.

(D) Biological study identifying the indigenous aquatic communities in the intermittent stream.

(E) Certification by a hydrologist, geologist or hydrogeologist that no recharge areas are located in the intermittent stream.

(F) Determine effluent toxicity in accordance with the latest version of the "Mixing Zone and Bioassay Guidelines" approved by the Board.

4.2.2 Authorized Signature:

All applications shall be signed by the owner or operator, or in case of a corporation, by the President of the Corporation, or the Vice President directly responsible to the President, the highest ranking corporate official with offices in Puerto Rico, a duly authorized representative responsible for the overall operation or regulated activity who presents a document in which such authority is delegated to that representative, in the case of other non-corporate entities, by an official of equivalent authority.

4.2.3 Certification of the Application for Relief:

Any person signing the application shall make the following certification:

"I certify under penalty of law that I have personally examined and I am familiar with the information submitted in this document and all attachments and that, based on my inquiry with those individuals immediately responsible for obtaining the information, I understand that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment."

4.3 Standards for Granting Relief:

No relief from complying with the applicable provisions of Article 3 of this Regulation shall be granted, unless the following requirements are met;

(A) The intermittent stream shall not contain substances or materials, including floating debris, oil, scum and other matter, originating from point sources in the amount or concentration which would:

1. Form objectionable deposits;
2. Create nuisances;
3. Produce objectionable color, taste, or odor;
4. Produce undesirable aquatic life or result in a dominance of nuisance species;
5. Cause injuries to, be hazardous to, or produce adverse physiological responses in humans, animals or plants;
6. Interfere with or impair existing uses of downstream waters.

(B) The intermittent stream shall contain no less than 3.0 mg/l of dissolved oxygen.

(C) Domestic wastewater treatment systems shall provide at least secondary treatment and non-domestic wastewater treatment systems shall provide the best available control technology, unless higher degrees of treatment are necessary, as determined by the Board, to:

1. Protect the existing instream uses of the receiving stream and of downstream waters;
2. Protect ground water or recharge areas;
3. Maintain the criteria of Section 4.3(A) of this Article and
4. Prevent a public health hazard.

(D) Applicable water quality standards are met at the point where the intermittent stream meets the nearest downstream enduring water body.

(E) The intermittent stream is not used as a source of water supply for humans or farm animals.

(F) The existing capacities of the stream, determined to be intermittent, to support the propagation and maintenance of indigenous aquatic communities will not be adversely affected by the proposed dis-charge.

(G) The existing recreational uses will not be adversely affected.

(H) The discharge will not adversely affect the ground water quality.

(I) The discharge will not adversely affect wetlands adjacent to or associated with the intermittent stream.

(J) The discharge will not create a potential health hazard or nuisance condition.

(K) The applicant complies with the applicable provisions concerning public participation contained in Sections 4.5 and 4.6 of this Article.

(L) The discharge shall not contain substances at concentrations which are carcinogenic, mutagenic, teratogenic or otherwise hazardous. Discharges of these subtances will be requiered to meet the applicable criteria in Article 3.1.9 (A) (B and C) at the end-of-pipe when the flow of the stream is composed entirely of effluent.

4.4 Tentative Determinations:

For every complete application received, the Board shall prepare Tentative Determinations summarizing the principal facts, stating the Board's tentative determination, briefly describing the basis for such determination and including any other relevant information.

4.5 Public Notice and Opportunity for Public Hearing:

4.5.1 Requirements for the Public Notice:

A public notice shall be published in two (2) newspapers of wide circulation in Puerto Rico informing the Board's intention to grant or deny relief from the provisions of Article 3 of this Regulation. Such notice shall also:

(A) Identify the intermittent stream under consideration, if it has a name, and a description of its location;

(B) Identify the nearest downstream watercourse which has been determined to be an enduring water body

(C) Identify the applicant and description of proposed discharge(s) into the intermittent stream;

(D) Inform the public and interested parties that comments can be submitted to the Board and public hearings can be requested within thirty (30) days after publication of the notices;

(E) Place and times in which the Tentative Determination and other relevant documents are available for public inspection;

(F) Any other pertinent information specified by the Board.

4.5.2 Cost of the Public Notice:

The applicant shall pay to the Board the cost of publication of the notices before printing, or assume the responsibility to publish the notices. In the latter case the notices shall comply with the specifications of the Board.

4.6 Public Hearings:

4.6.1 Requirements for Public Hearings:

The Board may hold public hearings at its own discretion or if:

(A) There is a significant degree of public interest, as determined by the Board;

(B) One or more of the aspects involved in the Board's decision may be clarified in the hearing.

4.6.2 Content of the Public Notice:

If the Board decides to hold public hearings, a notice shall be published in two (2) newspapers of wide circulation in Puerto Rico. Such notice shall specify:

(A) The day(s), the time(s) and the place(s) of the public hearing(s).

(B) The information required in Section 4.5.1, except for provision 4.5.1(D).

(C) Any other relevant information requested by the Board.

4.6.3 Requirements to Publish Public Notice:

The notices shall be published at least thirty (30) days prior to the hearing.

4.6.4 Cost of Public Notice:

The applicant shall pay to the Board the cost of publication of the notices before printing, or assume responsibility to publish the notices. In the latter case the notices shall comply with the specifications of the Board.

4.7 Final Determination

If public hearings are not held, the Board shall emit the Final Determination after considering the comments received within the thirty (30) days after publication of the notices informing the public of the Tentative Determinations. If public hearings are held, the Board shall emit the Final Determination after considering all the comments received within the thirty (30) days after publication of the notices informing the public of the Tentative Determinations, the comments received during the public hearings and the report from the hearing panel.

4.8 Duration of Relief:

Relief shall initially be granted for a one (1) year period. If warranted, the renewal of relief shall be effective for a fixed period established by the Board, not to exceed five (5) years.

4.9 Revocation of Relief:

The Board may revoke a relief granted under Article 4 for the following causes:

(A) Non-compliance with any condition of the relief;

(B) The applicant's failure, in the application or during the processing of the relief, to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant fact at any time;

(C) A determination that the discharge endangers human health or the environment.

4.10 Monitoring Requirements:

In those cases where the Board grants relief, the applicant shall monitor the chemical, physical and biological characteristics of the discharge, the intermittent stream, the nearest downstream water body determined not to be intermittent and any other body of water, as determined by the Board. The nature, extent and frequency shall be established by the Board on a case by case basis.

## ARTICLE 5 - MIXING ZONES

5.1. General

Authorizations for mixing zone shall not be transferable and do not imply a property right of any kind or exclusive privilege, nor do they authorize any harm to persons or property or the invasion of the private rights of others, or the infringement of any laws or federal or state regulations.

5.2 Natural Background Concentration.

If the petitioner demonstrates to the satisfaction of the Board, Through extensive field background concentration of the receiving waters exceed one or more of the water quality standards set forth for the corresponding classification, the Board may allow the para-meters in the discharge to be equal to or less than the natural background values.

5.3 Mixing Zone Authorization Application.

Each application for a mixing zone shall include the following:

1. Evidence that the project has complied with Article 4-C, Law No. 9 of June 18, 1970, Environmental Public Policy Act, as amended, if the application is related to a new or modified discharge; a new or modified submerged outfall; or a new or modified discharge channel, by the submittal of the corresponding environmental document.

2. Physical, chemical and biological characterization of the discharge and of the receiving waters at the site in which the background concentration is measured, as specified in the latest version of the "Mixing Zone and Bioassay Guidelines" approved by the Board. This characterization shall include the results of bioassays **(toxicity tests**) using organisms approved by the Board and following the methodology described in said guidelines.

3. Existing discharge flow or proposed discharge flow for new or modified discharges.

4. Concentration of each one of the substances or parameters that do not comply with the applicable water quality standards at the point of discharge, after using best practicable technology (BPT), as defined by EPA, for their control.

Detailed hydraulic design calculations for the proposed discharge system demonstrating that the best engineering practices (BEP) have been used for obtaining the required dilution in the least possible tridimensional space.

6. Description of each mathematical model utilized to determined the critical initial dilution for open coastal waters and dilution for closed body of waters, used to define the mixing zone and the corresponding calculations, and/or the field studies where the oceanographic data, measurements of the physical/chemical parameters around the existing discharges and the associated ecological studies demonstrate the extension and effects of the mixing zone.

7. Diagram showing the proposed mixing zone and indicating the coordinates of the points that define the boundaries of the mixing zone.

8. Proposed method to validate and calibrate (if necessary) each mathematical model, including a monitoring plan and a Quality Assurance Plan that includes field sampling and laboratory analysis.

9. Proposed method for the maintenance of the discharge system.

10. Discussion of agreements reached with the Board on how the applicable provisions of Article 5 of this Regulation will be complied with.

5.4 General Standards for Granting Interim Authorizations for Mixing Zones.

An interim authorization for a mixing zone will be granted when the petitioner has submitted an application in which it is demonstrated, to the satisfaction of the Board, the following:

1. Compliance with Article 4-C, Law No. 9 of June 18, 1970, Environmental Public Policy Act, as amended, when the application is related to a new or modified discharge, new or modified submerged outfall, or a new or modified discharge channel.

2. The proposed discharge system constitutes the best engineering practices (BEP) to minimize the size of the tridimensional space of the mixing zone, maintaining the required dilution.

3. Solids in the discharge will not settle on the bottom of the receiving waters.

4. At the boundaries of the proposed mixing zone, after critical initial dilution for open coastal waters and after dilution for closed bodies of waters each one of the following requirements are met:

    a. The concentration of pollutants or physical parameters, as defined in Section 5.5, do not exceed the applicable water quality standards.
    b. The acute toxicity units **measure in a acute biossay** do not exceed the criteria maximum

concentration (CMC).

c. The chronic toxicity units **measure in a chronic biossay** do not exceed criteria continuous concentration units (CCC).

d. For fresh waters, and in coastal waters where the effluent is not discharged through a high rate diffuser, the CMC shall be reached in the most restrictive of the following conditions:

1. Ten percent (10%) of the distance from the boundary of the outfall to the mixing zone boundary.

2. A distance of fifty (50) times the discharge length scale in any spatial direction. This requirement, in the case of multiple ports diffusers, shall be met for each port using the discharge length scale of said port.

3. A distance of five (5) times the local water depth in any horizontal direction from any port discharge.

5. The discharge shall not cause the growth or propagation of organisms that negatively disturb the ecological equilibrium in areas adjacent to the mixing zone.

6. The mixing zone shall be located as to allow, at all times, passageways for the movement or drift of the biota. Also, the passageways shall comply with the following in the specific cases mentions:

a. If the receiving body of water is closed body of water, estuary, river or creek, the mixing zone shall be located close to the bank itself in such a manner that the passageway permits the adequate and safe flow of free floating, swimming or drifting organisms, or organisms that have self propulsion.

b. If the receiving body of water is an estuary, the surface area and volume of passageway shall be at least seventy five percent (75%) of the corresponding surface area of the volume of the receiving body of water across each segment of the estuary.

If the receiving body of water is a river or a creek, the surface area and the cross-sectional area of the downstream of this point shall be at least sixty-seven percent (67%) of the surface area and the cross-sectional area of each segment of the river or creek.

d. If the receiving body of water is a closed body of water, the sum of all mixing zone surface

areas shall not exceed twenty per cent (20%) of the surface area of the receiving body of water.

7. The mixing zones requested will not overlap with an adjacent mixing zone.

8. The control technology in accordance with Article 6, Section 8, of this Regulation is being used or proposed.

9. Them mixing zones shall be free of debris scum, floating oils, and any substances which produce objectionable odors.

10. Each mathematical model used by the petitioner to define the mixing zones and inputs of said mathematical model were approved by the Board.

11. The mixing zones shall not be located in a recognized fish spawning or aquatic organism nursery area or habitat for threatened or endangered species.

12. The mixing zones shall not affect in any manner drinking water supply intakes or water intakes for livestock located less than one hundred (100) meters upstream, or five (5) kilometers downstream.

13. Except in the case of cooling waters, mixing zone limits in coastal waters shall not be located in such a manner that its boundaries are at a distance less than one (1) kilometer from areas designated as public beaches, or classified as SA, and in every body of water shall be restricted to avoid interferences with the designated uses of the receiving waters.

14. The proposed methodology to calibrate and validate each mathematical model used is acceptable to the Board.

15. The proposed method for maintaining in good working conditions the discharge system is acceptable to the Board.

16. The proposed method for defining the mixing zone boundaries is acceptable to the Board.
17. Each proposed mixing zone complies with applicable requirements set forth in Article 5 of this Regulation.

5.5 Mixing Zone Boundaries.

The mixing zone boundaries shall be determined according to the procedures described in "Mixing Zone

and Bioassays Guidelines" approved by the Board.

5.6 Additional Standards for Granting Interim Authorization for Mixing Zones.

Interim authorizations for mixing zones shall be granted when the petitioner demonstrates to the satisfaction of the Board compliance with the requirements set forth in the "Mixing Zone and Bioassay Guidelines", approved by the Board.

5.7 Period to Grant Interim Authorization for Mixing Zones.

Within sixty (60) days of the submittal of an approvable application, the Board shall make public their intention to issue or modify the Water Quality Certificate and to define a Mixing Zone Interim Authorization. The effectiveness of said interim or final mixing zone authorization will be when EPA incorporates it in the final NPDES permit of the petitioner.

5.8 Period of Validity of Interim Mixing Zone Authorization.

The interim mixing zone authorization shall be valid for a period not to exceed one and a half (1 2 ) years; or until the NPDES permit expires; or a date which the Board determines, based on the data submitted by the petitioner pursuant to Section 5.9 or that the mixing zones(s) cannot be validated, whichever occurs first.

5.9 Calibration and Validation of Mathematical Models Used to Define a Mixing Zone.

In the process of obtaining a mixing zone authorization, the petitioner shall submit to the Board information related to the following:

1. Calibration

The petitioner shall calibrate those mathematical models that require calibration as part of the process of granting an interim authorization for a mixing zone.

2. Monitoring Program for Validation

The petitioner shall implement a one (1) year monitoring program to obtain the necessary data required to validate each mathematical model during two (2) seasons (winter and summer).

The monitoring program shall include as a minimum:

a. Continuous flow measurements.

b. Sampling of a frequency to be established by the Board on a case by case basis, at the

following locations:

1) Effluent.

2) Station approved by the Board to determine the background concentration for each one of the substances for which a mixing zone is requested.

3) Stations approved by the Board at the boundaries of each mixing zone.

3. Analysis for all parameters that prompted the mixing zone application and other parameters needed to run each corresponding mathematical model.

4. Current velocities at a frequency to be established by the Board on a case by case basis, if current velocities are an input to the mathematical model used to define the mixing zone.

5 Show that the model passes the validation test. This shall be done by means of a comparative analysis between the obtained values in the sampling program, against the values indicated by the model for corresponding points throughout the periphery of the mixing zone. The model whose calculated limits are equal to or more than the ones obtained through the sampling program shall be validated. Since the field data are affected by variations in water currents, tides, etc., which vary as a
function of time, the referred comparison shall be done considering the data obtained in real time or as close to it as possible.

5.10 Standards for Granting Final Mixing Zones Authorizations.
A final mixing zone authorization will be issued if the mathematical model is validated as established in Section 5.9 of this Regulation.

5.11 Period of Validity of Final Authorization of Mixing Zones.

A final authorization of a mixing zone shall be valid for a period not to exceed five (5) years, but in no case will it exceed the expiration date of the NPDES permit.

5.12 Renewal of Mixing Zone Authorizations.

At least one hundred and eighty (180) days prior to the expiration date of a final mixing zone, the person to whom the authorization was issued, shall submit a complete application for the renewal of the mixing zone authorization. The renewal application shall contain the information that has changed with respect to the information previously submitted in compliance with the specifications of Section 5.3, and a certification indicating that the remainder of the information has not changed.

5.13 Revocation of Interim and Final Authorizations of Mixing Zones.

The Board may revoke an interim or final authorization of a mixing zone for the following reasons:

1. The mathematical model used to define the mixing zone was not validated. The Board, upon request by the petitioner, can approve a Compliance Plan in which corrective actions are committed to take place within the shortest time possible to obtain the necessary validation. The Board can maintain in force the Interim Authorization while the conditions incorporated in the mentioned plan are executed.

2. The petitioner's failure to fully disclose all relevant facts in the authorization application or renewal, or the petitioner's misrepresentation of any relevant facts during the mixing zone evaluation or during the validation process.

3. Non-compliance with any applicable provision in Article 5 of this Regulation.

4. Changes in the conditions under which the mixing zone was approved, including, but not limited to, dishcarge flow, effluent characteristics, and the discharge syste, as originally approved by the Board.

5. There is an imminent threat to human health or the environment.

5.14 Procedures for Revoking Mixing Zone Authorizations.

If there are reasons to revoke a mixing zone authorization as specified is Section 5.11, the Board shall notify the person to whom the authorization was granted indicating the intention of revoking the authorization by means of a Show Cause Order. The procedures to follow are those specified in EQB's Internal Regulations for Administrative Hearings. Notwithstanding the foregoing, the Board may

immediately revoke a mixing zone authorization without previous notice, nor the opportunity of hearings if there is an imminent threat to human health or the environment.

5.15 Ocean Outfall and Diffuser Requirements.

The ocean outfalls and the diffusers shall be designed, constructed and operated in accordance to best engineering practices. When the proposed discharge system incorporates said technology, the petitioner shall include in the mixing zone application, information regarding the following:

1. Length and diameter of the diffuser.
2. Number, diameter and the diffuser ports distribution.
3. Maximum and minimum exit velocities in the diffuser ports.
4. Measures to avoid the intrusion of surrounding waters within the diffuser.
5. The Froude number used for the design of the ports.
6. Outfall diameter and average value of the transversal area that will be ull under normal operating conditions.
7. Minimum and maximum design velocities for the outfall flow.
8. Any other design detail that could contribute to optimize the fast dilution of discharge.

5.16 Compliance Plans

As requested by the petitioner, the Board may consider and approve Compliance Plans for existing discharges that do not comply with the requirements specified in this Regulation. Such plans shall indicate the way in which those discharges will be made to comply, using the best engineering practices and within the shortest period of time, which will not exceed the NPDES permit expiration date, but under no circumstances should exceed more than three (3) years.

## ARTICLE - 6 GENERAL PROVISIONS

6.1 General Prohibitions:

6.1.1 Pollution of the Waters of Puerto Rico:

No person shall cause or allow the pollution of the waters of Puerto Rico, as defined in Article 1 of this Regulation.

6.1.2 Discharge of Pollutants:

No person shall cause or permit the discharge of any water pollutant in violation of Applicable Rules and Regulations:

(A) These Applicable Rules and Regulations include the water quality standards and all other requirements established by this Regulation or by other laws or regulations of the Commonwealth of Puerto Rico, concerning the conservation and protection of the natural resources that may affect the quality of the water resources.

(B) Moreover, such Applicable Rules and Regulations shall be deemed to prohibit any discharge that, in the judgment of the Board, prevents or interferes with attainment or maintenance of applicable water quality standards established by this Regulation or
by other laws or regulations of the Commonwealth of Puerto Rico.

6.1.3 No person shall cause or allow any discharge for which:

(1) this Board has not defined and approved a mixing zone in accordance with Article 5 of this Regulation: or
(2) this Board has not made a waste load allocation analysis in accordance with Article 10 of this Regulation; or
(3) this Board has not approved a relief of compliance with the requirements of Article 3 in accordance with Article 4 of this Regulation, unless the discharge prior to dilution (at the sampling point of the discharge), complies with all the water quality
standards; or
(4) this Board has not approved a Compliance Plan in accordance with Section 6.12 of this Regulation; or
(5) this Board has not approved a temporary exemption in accordance with Article 9

of this Regulation.

6.2 Source Monitoring, Record Keeping, Reporting, Sampling and Testing Methods:

6.2.1 Monitoring, Records, Reports:

The Board may require the owner of any source, at the owners expense, to use and maintain such monitoring equipment, sample and measure the volume of discharges, sample the receiving waters, establish and maintain records, and make periodic reports as the Board shall prescribe.

6.2.2 Right of Entry:

Representatives of the Board, properly identified:

(A) Shall have right to entry to, upon, or through any premises in which a source is located or in which any records required to be maintained under this Regulation are located.

(B) Shall have access to, inspect and copy any records required under this Regulation, inspect any monitoring equipment method to determine its accuracy, and sample any discharge or receiving waters which the owner is required to sample under this Regulation.

6.2.3 Sample Collection and Analysis:

All sample collection, preservation, and analysis shall be carried out in accordance with those methods and procedures described in the most recently EPA approved edition of "Standard Methods for the Examination of Water and Wastewater", and 40 CFR Part 136. All chemical analyses shall be certified by a chemist licensed to practice the profession in Puerto Rico. All bacteriological tests shall be certified by a medical technician licensed to practice the pro-
fession in Puerto Rico.

6.2.4 Certification of Records and Reports:

All records and reports required pursuant to this Regulation shall be submitted together with a sworn statement or affidavit of the corporate president or of the highest ranking corporate officer with offices in Puerto Rico or of an equally responsible officer in the case of organizations other than corporations. Such sworn statement or affidavit can be signed by an officer previously authorized in writing by the responsible officer named above, and shall, in all cases, attest to the truth, correctness, and completeness of such records and

reports.

6.2.5 Sampling and Testing Facilities:

The Board may conduct tests of discharges of water pollutants from any source. Upon request of the Board, the per son responsible for the source to be tested shall provide such safe and proper monitoring and testing facilities, (but not including instrument and testing devices except when required pursuant to other provisions of this Regulation, orders, authorizations of state permits or federal permits) as may be necessary for proper characterization of the discharge.

6.3 Discharge Data Available to Public Presentation:

6.3.1 Public Access to Data:

All discharge data obtained by the Board, including data reported pursuant to Section 6.2 of this Article, shall be made available for public inspection and shall also be made available to the public in any additional way that the Board may deem appropriate.

6.3.2 Presentation of Data:

All such discharge data shall be presented in such a manner as to show the relationship between measured or estimated discharges and the discharges allowable under Applicable Rules and Regulations.

6.4 Malfunction of Equipment; Reporting:

In the event that any source, water pollution control equipment or related facility breaks down in such a manner as to cause the discharge of pollutant in violation of Applicable Rules and Regulations, the person responsible for the equipment shall provide a statement giving all pertinent facts, including the estimated duration of the breakdown. The Board shall be notified when the condition causing the failure or breakdown has been corrected and the equipment is again in operation. When required by the Board, this notification shall be followed by a written report of the incident. This report shall include specific data concerning the affected equipment, date and hour of the occurrence, causes of the malfunction, and corrective measures taken.

6.5 Emergency Plan:

The Board may require the owner of any source to provide or contract the services for equipment and materials necessary for controlling spills of oil and/or hazardous substances. The Board may also require the owner of any source to take all necessary measures to control nontoxic spills that may cause a disagreeable taste or odor to the waters. The source must have an emergency plan for prompt action in case of spills. Said plan must be coordinated with the Emergency Plan for Puerto Rico. The Emergency Plan requirements will be included in the guides developed by the Board concerning this matter.

6.6 Water Pollution Control Equipment:

6.6.1 General:

(A) All water pollution control equipment shall be installed, maintained and operated in such a manner as to allow compliance with Applicable Rules and Regulations.

(B) All pollutants removed from the wastewater shall be disposed of at the intervals required for maintaining optimum operational efficiency. The disposal of removed pollutants shall be in accordance with Applicable Rules and Regulations and in such a manner as to prevent environmental degradation.

(C) Where required by the Board, and particularly for those sources where pollution would result in immediate danger to human health or life, stand-by equipment shall be provided to insure continuous operation.

6.6.2 Operation:

Following the issuance of licenses by the Potable Water and Wastewater Treatment Plant Operators Examining Board of the Government of Puerto Rico, all wastewater facili-ties, whether publicly or privately owned, must be under the supervision of an operator licensed by such Examining Board.

6.7 Minimum Treatment Required.

The minimum treatment required for any wastewater must be such that discharges shall meet effluent limits as established under Section 301 of the Clean Water Act as amended and shall not cause the water quality standards, as set forth in Articles 2 and 3 of this Regulation, to be contravened, except as provided under Article 3.

6.8 Standards for Substances at Concentrations Below the Detection Level.

In those cases where a standard for a particular substance is below the detection level of approved analytical methods, as indicated in Section 6.2.3 of this Article, the Board may require, in any permit, order, authorization or certificate issued by the Board, that such substance be analyzed by the approved analytic method with the lowest detection level, as indicated in Section 6.2.3. The applicable limit in these cases shall be that the substance not be detectable by the required method.

6.9 Toxicity Testing **(Bioassay)**

The Board may request any point source to conduct acute toxicity tests of its wastewater discharges. Based upon an evaluation of the test results, this Board may require additional toxicity tests (**bioassays**),

including chronic tests and toxicity/treatability studies, and may impose toxicity limitations.

6.10 Site-Specific Water Quality Standards

The Board or any interested person may develop, in accordance with the requirements of 40 CFR Part 131 and guidelines developed pursuant to 40 CFR Part 131, a site-specific water quality criteria where such criteria is considered necessary. When the criteria is to be developed by an interested person, that person must submit, for the Board's approval, a protocol of all the procedures, conditions, organisms and sites that will be considered by such person to develop the criteria. The Board may adopt a criteria developed in accordance with this Section of Article 6 as a water quality standard pursuant to the procedures established under 40 CFR Part 131.20.

6.11 Water Quality Certificate.

(1) The water quality standards established by this Regulation are not concentration limits applicable to effluents. These standards are applicable to the receiving water body. When requesting a Water Quality Certificate, the petitioner must submit, as part of the application, a characterization of the effluent, **the receiving waters and the limits which the petitioner requests be applicable to the effluent, together with a detailed analysis of the method(s) used to translate water quality standards into effluent limitation and the justification for their use**. The petitioner must demonstrate to the satisfaction and requirement of the Board that the limits requested shall not cause a violation of the water quality standards of the receiving water body, taking into account the procedures of waste load allocation (Article 10), compliance plans (Section 6.12), determination of mixing zones (Article 5), site-specific water quality standards (Section 6.10), requests for temporary exemptions (Article 9), (and) the provisions for intermittent water bodies (Article 4) or **any other defensible method acceptable by the Board**. In no case shall it be allowed that any discharge will cause a violation of the water quality standard in the receiving water body (coastal, surface, estuarine and ground waters), if the average calculated from the flow proportional composite samples taken in a 24 hour period exceed the maximum limit allowed for that specific parameter as established in Article 3. The Board reserves the right to intervene with any discharge of pollutants that affects the quality of a receiving water body in a given moment. **This includes setting limits on any substances not specifically listed in this Regulation and also regulating the manner in which a discharge take place, when the Board finds that such intervention is necessary to protect the quality and the designated use of a water body.**

(2) This Board will publish a public notice in the newspaper of widest circulation in Puerto Rico informing the Board's intention to grant or deny any Water Quality Certificate requested pursuant to the Clean Water Act. The cost of the publication of such notice will be paid by the petitioner of the corresponding permit object of the referred Water Quality Certificate. This Board will notify the petitioner of the permit, fifteen (15) days prior to the publishing date of the public

notice, of the requirement to pay for the publication of said notice in order to allow the petitioner time to pay for the publication.

6.12 Compliance Plan

This Board may consider and approve a Compliance Plan for any existing facility that is not in compliance with the provisions of this Regulation. Such Compliance Plan may be requested by a petitioner of any water quality certificate, approval, permit or authorization under consideration of this Board. Such petition must be submitted to this Board with the following information

(a) Evidence which demonstrates, to the satisfaction of the Board, the need of a Compliance Plan.

(b) The proposed Compliance Plan which indicates the manner in which such facilities will meet full compliance with the applicable provisions of this Regulation, utilizing the best engineering practices and in the shortest time possible.

The effective period of the Compliance Plan shall not exceed a maximum period of three (3) years, except upon request of the interested person and when it is demonstrated that conditions, which make necessary an extension of such period still exist. In this case the Board may grant an extension of the effective period of the Compliance Plan that will not exceed two (2) years.

This Board may impose any condition considered necessary to assure full compliance with the provisions of this Regulation in the shortest time possible.

This Board may revoke the approval of a Compliance Plan for any of the following reasons:

(a) The petitioner has not revealed all the relevant facts in the request or has provided false representation of any of the relevant facts during the evaluation of such request.

(b) Non-compliance with any applicable provision of the Compliance Plan.

(c) Changes in the conditions, without due authorization from this Board, under which the Compliance Plan was approved.

(d) There exists an imminent hazard to public health or the environment.

(e) This Board reserves the right to supervise and oversee the actions of the petitioner concerning the performance of the Compliance Plan.

## ARTICLE 7 - PENALTIES

Any violation of this Regulation will constitute a felony and will be subject to the penalties established by the Public Policy Environmental Act, Law Number 9 of June 18, 1970 as amended. Moreover, the Board may, in case of infraction of any of the Applicable Rules and Regulations, suspend, amend, or revoke any relevant certification, approval, or other authorization issued under this Regulation.

## ARTICLE 8 - ADDITIONAL PROVISIONS

8.1 Public Nuisance:

(1) Nothing in this Regulation shall be construed to authorize or legalize the creation or maintenance of a public nuisance as defined in Article 329 of the Penal Code of Puerto Rico.

(2) This section shall not be understood as a limit or restriction of the other prohibitions established in other parts of this Regulation.

8.2 Overlapping or Contradictory Provisions:

If a requirement established by any provision of this Regulation is either more restrictive or less restrictive than a requirement established by any other provision of this Regulation or by any other law, regulation, standard, or limit established by any duly constituted governmental authority having jurisdiction, the requirement which is more restrictive shall apply.

8.3 Derogation:

This Regulation nullifies any previous provision, resolution, agreement, or regulation of the same subject which may contradict this Regulation. Moreover, this Regulation nullifies in their entirety Sanitary Regulations No. 127, 128, 129, and 131 of the Department of Health.

8.4 Separability Clause:

If any provision of this Regulation is declared illegal or unconstitutional by decision of a court, such declaration or decision will not affect the other provisions of this Regulation, each one being considered as separate.

8.5 Effectiveness:

This Regulation shall go into effect thirty (30) days after the date of its filing at the Department of State, in conformity with Law 170 of August 12, 1988.

8.6 Amendments to This Regulation:

8.6.1 Effective Date of Amendments:

The Board may adopt amendments to this Regulation. Such amendments shall be in effect thirty (30) days after the date of its filing at the Department of State, or immediately through the issuance of an executive order in conformity with the provisions of Law 170 of August 12, 1988.

8.6.2 Required Hearing on Amendments:

The Board shall not adopt any amendment without holding a public hearing and

complying with the notice requirements, established in Section 8.6.3 of this Article.

8.6.3 Notice of Required Hearings:

(A) Notice of the date, time, place and nature of the required hearing that the Board shall hold to amend this Regulation, must be given at least thirty 30 days before the hearing by publishing the required notice at least once in two of the newspapers of wide circulation on the Island. The Board may give additional notice in any manner it deems appropriate.

(B) Such notice of hearings shall indicate at least one location where the full text of the proposed amendment will be available for public inspection.

8.6.4 Mandatory Periodic Hearings on the Regulation:

The Board shall periodically hold public hearings which shall be held not later than 3 years after the latest adopted amendments.

8.6.5 Effect of Pending Amendment:

(A) For purposes of this Section, an amendment is "pending" from the date of first publication of the notice of public hearing on the amendment.

Notwithstanding any other provision of this Regulation while any amendment to this Regulation is pending, any water quality certificate, approval, permit, or authorization under consideration by the Board, shall be based on the Regulation in effect and any such approval, permit or authorization under consideration by the Board shall be conditioned to the immediate applicability of the amendment upon the date of effectiveness of such amendment, unless the petitioner of the water quality certificate, approval, permit or authorization requests and obtains a Compliance Plan in accordance with Section 6.10 of this Regulation.

(C) Water quality certificates, approvals, permits or authorizations issued under this Regulation prior to the amendment, shall remain unaltered until the date of renewal, extension or expiration.

If a person considers that a benefit may be obtained from an amendment made to this Regulation, that person may request from the Board that such benefit be granted.

The Board will decide, based on the particular circumstances of each case, after receiving a petition suppor ting the request, whether or not the benefit will be granted.

## ARTICLE 9 - TEMPORARY EXEMPTIONS

9.1 General

The Board may grant temporary exemptions to domestic and industrial wastewater treatment plants and drinking water treatment plants that hold or have requested an NPDES permit to EPA in order to discharge effluents that do not fully comply with the provisions of Article 3.1.9(A)1, 3.1.9(B)1, 3.1.9(B)2 and 3.2, if the provisions of this Article are met **and if any temporary exemption to be granted by the Board is approved by EPA. All approved temporary exemptions will be informed in the next printing of the Regulation**.

**The water quality standards established by this Regulation are not concentration limits applicable to effluents**. The temporary exemptions do not constitute a petitioner right and the granting, denial, termination and renewal will be subject to the judgment of the Board. It is the responsibility of the petitioner to perform the necessary studies and submit the evidence to prove to the Board's satisfaction, that after having incorporated or having agreed to incorporate control technology beyond the required to meet the technology based effluent limits required persuant to Section 301 of the CWA it is not possible to comply with all the water quality standards, and for that reason is necessary an exemption for the parameters in non-compliance. Also the petitioner has the obligation to perform, to the Board's satisfaction, the required studies and to submit any additional information required by the Board.

In the case of drinking water treatment plants, the petitioners must provide evidence that demonstrates, to the satisfaction of the Board, that it cannot comply with the water quality standards even though the petitioner has implemented or has committed to implement by means of a compliance plan, practical alternatives to control the quality of the effluent from this type of facility.

The granting of an exemption to a wastewater treatment plant does not exempt the other point sources that cdischarge to the same water body from compliance with the water quality standards.

9.2 Circumstances that may require a temporary exemption.

The Board may consider temporary exemptions in the following cases:

1. The existing plant cannot comply with all the water quality standards and the wastewaters that reach the plant will be hooked-up to a new treatment plant (with ocean outfall) within the next five (5) years. The temporary exemptions granted in these cases will be denominated Category I Temporary Exemption.

2. The existing or new plant cannot fully comply with all the water quality standards having, implemented, or committed to implement the Best Available Practical Technology (BAPT); the plant will not be substituted for a new treatment plant with ocean outfall within the next five (5) years; land disposal of the treated waters is not feasible and it is not feasible to reuse. The difference between the water quality standards and the water quality attainable through the use of

BAPT on the discharge, will be subject to an exemption that will be denominated Category II Temporary Exemption.

3. For each case, the petitioner shall demonstrate to the Board that the adverse economic and social impact which will result from requiring compliance with the standard by means of technology more advanced than technology-based effluent limits will be substantial in comparison to any adverse environmental public health or welfare aspects.

9.3 Exclusions

Notwithstanding the dispositions of Article 9.2, under no circumstances will a temporary exemption be granted in the following cases:

1. The discharge that will be permitted for the exemption, alone or in combination with the other discharges to the receiving water body, will affect or constitute a risk to the public health, or will cause significant damage to the environment.

2. The plant discharges to a water body classified SA or SE.

3. There is an intent to discharge sludge to the receiving water body.

4. In the case of discharges to surface water bodies where the treatment plant provides less than **technology- based effluent limits** , and there is no Compliance Plan approved by the Board in which the petitioner commits itself to implement such system in a determined period. This condition does not apply to the exemptions in Category I.

5. The existing uses of the receiving water body would be adversely affected.

9.4 Exemption Application

9.4.1 Pre-Application Coordination Meeting.

Prior to submitting an exemption application, the interested party should submit a written request for a preapplication coordination meeting, with personnel of the Water Quality Program of the Board. In such meeting, the interested party should present the evidence that justify the application, based on this will be coordinated the steps to be followed if the Board considers that the exemption may be granted.

9.4.2 Content of Category I Exemption Application.

The Category I exemption application will contain the following:

A. Petitioner's name and address.

B. Name and telephone number of the person designated by the petitioner to coordinate the processing of the application with the Environmental Quality Board.

C. Location of the treatment plant.

D. Description of the treatment plant.

E. Location of the discharge point.

F. Current flow of the treatment plant, (daily average flow).

G. Design flow of the treatment plant.

H. Industrial contribution to the treatment plant flow, (effluent volume and characteristics for each industry connected to the system).

I. Chemical, physical and biological characteristics of the effluent of the plant including all the level for parameters included in the WQSR.

J. Parameters for which the exemption is requested and the alternate levels proposed by the petitioner.

K. Description of the proposed or existing pretreatment program in the service area of the treatment plant, including the plan developed for its implementation.

L. Chronic and acute toxicity study, performed in accordance with the "Guidance for Mixing Zones and Bioassays" published by the Board.

M. Any other information requested by the Board.

9.4.3 Content of Category II Exemption Application

Such applications will contain the same information required for the Category I exemption applications, and the following additional information:

Inventory and description of the drinking water intakes; animal enterprises water intakes, environmental sensitive areas and distance of each of these downstream from the discharge point.

B. Inventory of recreational areas on areas of commercial or recreational fishing downstream from the discharge point and distance of each of these areas from the discharge point.

C. Seven day two year (7Q2) low flow, if the receiving water body is a river or a creek.

D. Water quality data, including the parameters subject of the exemption application, upstream and downstream of the discharge point (the number of stations, locations, sampling frequency and duration and other details of the study will be

determined by the Board in each particular case).

E. Compliance Plan to provide treatment at the BAPT level, when this would not be available at the moment of requesting exemption (applies only to Category II exemptions).

F. Effluent monitoring plan proposed by the petitioner to characterize the discharge, if the exemption is granted.

G. Any other study or information that the Board considers necessary, such as:

1. Study to determine the water body's assimilative capacity for substances which have oxygen demand. The Streeter-Phelps methodology will be used.
2. Study to determine the nature and extent of the sedimentation of solids discharged by the plant in the receiving water body, if the exemption is granted.
3. Study that provides the grounds, including cost factors, to determine that land disposal of the effluent is not feasible.
4. Study that provides the grounds, including cost factors, to determine that effluent reuse is not feasible.
5. An estimate of the cost to provide treatment more advanced than technplogy-based that would be necessary to comply with the water quality standards and demonstration that these costs result in subtantial economic and social impacts.

9.4.4 Environmental Studies Required for Category II Exemptions, Performed by the Board.

Upon request of the petitioner, the Board may perform environmental studies required for Category II Exemptions (C, D, G.1, G.2). When this option is exercised, the petitioner will transfer to the Board the funds necessary to carry out the studies.

9.4.5 Authorized Signature

All temporary exemption applications must be signed by the owner or a legal representative of the interested party and accompanied with a notarized certification that provides testimony of the truthfulness of the information submitted.

9.5 Public Participation

9.5.1 Public Notice

If the Board makes a preliminary determination to grant the exemption, a public notice will be published in two newspapers of wide circulation in Puerto Rico. The notice will request public comments and will contain the following information:

A. Name and address of the petitioner.

B. Location of the treatment plant.

C. Description of the treatment plant.

E. Location of the discharge point and receiving water body.

F. Parameters included in the exemption application.

G. Place where the exemption application and the documents that support it could be examined; schedule during which access to the documents is possible.

H. Indication that the Board will hold Public Hearings on the exemption petition and the day, time and place of the Public Hearings.

I. Any other information requested by the Board.

9.5.2 Publication Requirements

The public notices will be published at least 30 days prior to the public hearing.

9.5.3. Cost of the Public Notice.

The petitioner shall pay to the Board the cost of publication of the public notices before publishing or assume the responsibility to publish the notices. In the latter case, the notices shall comply with the specifications of the Board.

9.6 Criteria to Grant Category I Exemptions.

No Category I exemption will be granted unless the following provisions are met:

1. The interested party shall demonstrate to the satisfaction of the Board that the largest quantity of pollutants that will contain the discharge permitted by the exemption, by itself or in combination with the other discharges to the receiving water body, will not represent a significant risk to the public health.
2. The petitioner complied with the public participation requirements set forth in Article 9.5.
3. The discharge shall not contain fecal coliforms in excess of 2,000 colonies/100 ml.
4. The exemption will not cause irreversible damage to the environment.
5. The petitioner is implementing the pre-treatment program in the affected plant or in the area served by the plant, and is complying or requiring compliance with the applicable requirements. In absence of this, the petitioner has submitted a Work Plan acceptable to the Board in which the petitioner
commits itself to the implementation of such program.

6. The acute toxicity shall not exceed 0.3 TUa and the chronic 1.0 TUc, as determined by the "Guidance for Mixing Zone and Bioassays" published by the Board.
7. The petitioner agrees to the conditions that may be imposed by the Board.

9.7 Criteria to Grant Category II Exemptions

No Category II Exemption will be granted unless the following conditions are met:

1. Compliance with the condition indicated in section 9.6.1.
2. The exemption shall not cause the bioaccumulation of toxic substances and pesticides in the biological community downstream of the discharge.

No significant accumulation of solids attributable to the effluent shall occur downstream from the discharge.

4. The petitioner complied with the public participation requirements in accordance with Article 9.5.
5. The dissolved oxygen level of the receiving water body downstream from the discharge shall not be lower than 4 mg/l due to the discharge.
6. The exemption shall not result in a plant discharge that will.
   a. cause accumulation of objectionable matter in the stream bed.
   b. cause a public nuisance, as defined in ALPR,
   c. produce undesirable color or odor.
7. The petitioner commits itself to provide the BATP treatment to the wastewater influent to the plant.
8. The petitioner agrees to other conditions required by Board.

9.8 Duration of the Temporary Exemption.

The exemptions will be granted for a period no longer than five (5) years, or the remaining period of the NPDES permit applicable to the discharge, whichever is less. To extend the effective period of the exemption, the interested party shall submit a new application for a new exemption together with the NPDES permit application, at least 120 days before the current exemption expiration date.

9.9 Termination of the Temporary Exemption

The Board may terminate an exemption granted for the following reasons.

1. Non-compliance with any condition of the exemption.
2. Non-compliance with the effluent limitation in the NPDES permit.
3. Non-compliance with the established or scheduled pre-treatment program.
4. The petitioner did not disclose or altered relevant facts in the exemption application, during its processing, or in the reports submitted after the exemption is approved.

5. The discharge, after being granted the exemption, constitutes a risk to the public health or has a significant impact on the environment.
6. The non-submittal of self-monitoring discharge report.
7. The emitting of unpleasant odor from the receiving water body downstream from the discharge, due to the effluent of the plant.
8. Fish kills or kills of other organisms downstream from the discharge, caused by the effluent of the plant.

9.10 Consequences of the Termination of an Exemption.

If the Board terminates an exemption, **will be proceed to issue a new water quality certificate with the necessary effluent limits to make secure that water quality standards are achieve in the receiving water body.** The interested party must comply with the water quality standards as soon as possible, but in a period not to exceed two (2) years.

9.11 Operation During the Effective Period of the Exemption.

The quantity of pollutants in kg/day, or the concentration of these, shall not be increased in the treated water from a treatment plant covered by an exemption under this Article, until it complies with the water quality standards.

# ARTICLE 10 - WASTE LOAD ALLOCATION

## 10.1 General

A discharge to surface waters or estuarine waters will be permitted for which a waste load allocation (WLA) analysis has not been performed by the Board only when (1) the discharge, undiluted, complies with all the water quality standards at the discharge point in accordance with the provisions of Article 4 of this Regulation; or (2) a mixing zone has been defined and authorized by this Board in accordance with Article 5 of this Regulation, or (3) a Compliance Plan has been granted by this Board in accordance with Section 6.10 of this Regulation; or (4) a temporary exemption has been granted by this Board in accordance with Article 9 of this Regulation.

## 10.2 WLA Applications

Whenever the Board determines that allocations of a water body's wastes assimilative capacity are necessary in a segment, the Board shall request from each point source to complete and submit, within sixty (60) days after receiving the Board's notification, an Application for a Waste Load Allocation (AWLA). If any point source needs more than sixty (60) days to complete and submit the AWLA, the point source shall submit a written request for a time extension to submit the AWLA at least ten (10) days before the due date of submission of the AWLA. Such request shall include the reasons for which the point source is unable to submit the AWLA within the period of time specified in this Section. If the point source fails to submit the AWLA in accordance with the requirements specified in this Section, that point source shall comply with all applicable water quality standards at the point of discharge.

Each application shall be made using the EQB Form WLA-01.

Each point source shall include together with the AWLA the following:

(1) Evidence that the project has complied with the provisions of Article 4-C, Law No. 9 of June 18, 1970, Environmental Public Policy Act, as amended, if the application is related to a new or modified discharge.

(2) Diagram showing the existing and future discharges.

## 10.3 Conditions for Waste Load Allocations

(A) Need for Allocation

Whenever a segment of a water body is not meeting or may not meet the water quality standards after the implementation of technology-based effluent limitations, the Board shall determine the total maximum daily load (TMDL) and shall allocated the waste assimilative capacity of the receiving waters among particular discharges in accordance with the Waste Load Allocation

Guidelines (WLAG) and the procedure prescribed in this Regulation. The control requirements in such cases will be determined based on the waste load allocation process (WLA-based effluent limitations).

(B) Minimum Treatment Required

No allocation shall be performed to any point source that does not meet the requirements of Section 301(b) of the Clean Water Act.

(C) Not a property right

Allocations will not be transferable and do not convey any property rights of any sort or any exclusive privileges, nor do they authorize any injury to persons or property or invasion of other private rights, or any infringement of Federal or State laws or regulations.

(D) pH

No allocation shall be performed to any point source that does not meet the applicable pH water quality standard at the point of discharge.

(E) Design Flows

(1) Receiving Water bodies Design Flow

For the purpose of determining the waste assimilative capacity of a water body the following design minimum flows will be used:

a. For a free flowing stream, the low flow of seven (7) day in two (2) year(7Q2).

b. Where the quantity of flow is altered by human-induced activities or work, and such alteration results in flow variations significantly different from natural patterns of variations, the Board may establish a design flow in a case by case basis, to reflect the effects of such flow variations.

c. In the cases of lakes, reservoirs and estuarine waters, the Board will determine the characteristics upon which to establish waste load requirements with respect to the particular characteristics of the receiving water body.

(2) Discharges Design Flow

The discharge design flow shall be the wastewater treatment plant's design flow or the 24 hours maximum discharge flow whichever is greater. In those cases where the treatment plant capacity is significantly larger than the maximum flow of the discharge in twenty-four (24) hours, the Board, upon request of the interested party, may perform the WLA using the maximum flow in twenty-four (24) hours, when demonstrated to the satisfaction of the Board that such flow is adequate. In those cases, the interested party should submit a

petition to the Board requesting that the WLA be performed with the maximum flow of the discharge in twenty-four (24) hours. If the petition is approved by this Board, the WLA will be performed in accordance with said petition and taking into consideration the increase in flow during the effective period of the WLA.

(F) Total Maximum Daily Load

The total maximum daily load (TMDL) is the total allowable pollutant load (i. e. the sum of the individual point sources, the individual existing or future nonpoint sources, the natural background sources and the reserve) to a receiving water body such that any additional loading will produce a violation of the water quality standards.

(G) Sum of the Load Allocation

The sum of the load allocation ( LA) is equal to the natural background sources of pollution plus the sum of the individual nonpoint sources.

(H) Maximum Daily Load Allowable

The maximum daily load allowable (MDLA) is the maximum load that can be allocated among the point sources without causing a violation to the water quality standard.

The MDLA of a substance x is equal to the TMDL of the substance x minus the sum of the load allocation of the substance x.

(I) Reserves

In each segment, as part of the initial allocation, a reserve of 25% the MDLA of each pollutant shall be set by the Board, except when it is demonstrated to the satisfaction of the

Board that existing conditions merit a reserve of less than 25%. In such cases, a written request shall be submitted to the Board by the interested party, indicating the reasons for which a reserve less than 25% is necessary. If the request is approved by Board, the WLA shall be performed in accordance with such request.

The reserve in each segment shall be utilized to allow for economic development and population growth which may occur subsequent to the initial allocation, or any reallocation, when approved by the Board. The priority to utilize the reserve shall be directed towards the governmental infrastructure necessary to allow for said economic development and population growth.

(b) Particular allocations or portions of allocations which are no longer needed or used by the source or facility to which they were assigned shall be revert to the reserve.

10.4 Determination of the substances for which the WLA shall be performed.

Whenever the Board determines that allocation of a water body's assimilative capacity is necessary in a segment, the Board shall perform the WLA for substances that may deplete the level of dissolved oxygen and for each substance that does not meet the applicable water quality standard at the discharge point after technology-based requirements are met. In addition, WLAs may be performed for other substances that have the potential to cause violations of any applicable water quality standard in the receiving water body.

10.5 Dissolved Oxygen (DO) WLA

The DO in water bodies is affected by the BOD and the NH3. Therefore the Board will perform WLA analysis in accordance with Chapter 6, Section II of the Waste Load Allocation Guidelines.

10.6 Allocations

The Board shall allocate the allowable loads among the different point sources in such a manner that compliance with all applicable water quality standards is achieved. The allowable loads shall be allocated among the different point sources as follows:

(1) The Board shall identify all the point sources for which the WLA shall be performed.

(2) The Board shall request from each point source for which a WLA shall be assigned to complete an Application for Waste Load Allocation (AWLA) within sixty (60) days after receiving EQB's notification.

(3) If any point source fails to submit the AWLA in the specified time period and fails to submit a request of time extension to submit the AWLA, such point source shall comply with all applicable water quality standards at the discharge point.

(4) The Board, using the information provided in the AWLA and any other data obtained from EPA/EQB data based or other sources and assuming that all the substances, except the ones that may
deplete the dissolved oxygen, are conservative, shall determine:

a. the substances for which the WLA shall be performed.
b. the TMDL, LA, MDLA, R, WLA and EAC for each substances for which the WLA shall be performed.

(5) If for any substance the background concentration is greater than the applicable water quality standards, then the maximum allowable effluent concentration (MAEC) shall be equal to the water quality standard for all discharges.

(6) If for any substances the EAC is less than the applicable water quality standard, then the MAEC shall be equal to the water quality standard for each discharge, except for dissolved oxygen for which the Board shall perform the WLA as specified on Section 10.5 of this Article.

(7) If for a given discharge, the EAC is greater than the maximum requested discharge concentration (MRDC), the MAEC for that given discharge shall be equal to MRDC.

(8) If for all discharges the EAC of a given substance is less than the MRDC, then the MAEC of that given substance shall be equal to the EAC.

(9) If for one or more discharges the MRDC of a given substance is less than the EAC of that substance, and one or more discharges have the MRDC of such substance greater than the EAC, the EAC may be recalculated as follows:

$$EACrx = \frac{0.75\,(WQSx\ QT - CBGx\ 7Q2) - (CLTEx\ QLTE)}{QUAps}$$

where: EACrx = the recalculated equitable allowable concentration of a substance x for the discharges with MRDC greater than the EAC of the substance x.

WQSx = water quality standard of substance x.

QT = total flow of all discharges.

CBGx = background concentration of substance x.

CLTEx = concentration of a substance x less than the EAC.

QLTEx = flows of discharges with concentration of the substance x less that EAC.

QUAps = sum of the flows of unallocated point sources discharges.

(10) If after the Board performed the WLA, one or more existing point sources are not meeting the WLA-based effluent limitations, a compliance plan shall be submitted, for EQB approval, by such point sources indicating the way in which those point sources will attain compliance with the applicable WQS.

10.7 Reallocations

All allocations are subject to review by the Board and, after such review, the Board may perform reallocations as it deems necessary.

The Board will review allocations:

1. If any factor or condition upon which a particular allocation is based changes significantly;
2. When a segment of a waterbody is not meeting the water quality standards after the Board performed a WLA;
3. When, in the judgment of the Board, the existing allocations are no longer equitable. In making a reallocation, the Board shall utilize the same procedure for allocations in accordance with WLAG and Section 10.6 of this Article.

10.8 Effectiveness

Allocations shall go into effect after being incorporated into a discharge permit.

10.9 Validity

An allocation shall be valid until the discharge permit expires; except when the same is revoked by the Board or a reallocation is performed by the Board.

10.10 Revocation

The Board may revoke an allocation for the following reasons:

1. The petitioner's failure to fully disclose all relevant facts in the application or renewal, or the petitioner's misrepresentation of any relevant facts during the WLA evaluation or validation process.
2. Non-compliance with any applicable provision of this Regulation.
3. Changes in the conditions under which the WLA was performed, including, but not limited to, background concentration, discharge flow, receiving water body flow and effluent characteristics, as originally approved by the Board.
4. There is an imminent threat to human health or the environment.

10.11 Procedures for Revoking Allocations

If there are reasons to revoke an allocation, the Board shall notify the person to whom the waste load allocation was granted indicating the intention of revoking the allocation by means of a Show Cause Order. The procedures to follow are those specified in the Board's Internal Regulations for Administrative Hearings. Notwithstanding the foregoing, the Board may immediately revoke an allocated

load without previous notice, or the opportunity of hearings if there is an imminent threat to human health or the environment.

10.12 Cost incurred by the Board Performing WLA

The point sources shall pay to the Board any cost incurred by the Board in the performance of any WLA.

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# Attachment

# Plan for the Development of the Anti-Degradation Policy

**Attachment**

**Plan for the Development of Antidegradation Implementation Procedures in Puerto Rico**

**(March 2003)**

I. Overall: EQB, with assistance from EPA, will work to develop a guidance document which identifies Puerto Rico=s enhanced antidegradation implementation procedures. This guidance document will not be not part of the 2002 revisions to the PRWQS and is, therefore, not tied to the current rulemaking schedule. In its FY-03 Consolidated Water Workplan, EQB has committed to completing these implementation procedures by June 30, 2003. EQB will form a workgroup of 2 to 3 key staff members to work on the development of this document. Work will begin once the current rulemaking has been completed. Completion of this document will address two concerns raised by the plaintiffs in full.

In summary, agreement has been reached between EQB and EPA staff to use EQB=s current framework of working with EPA Region 2 in the point and non point sources control process for the development of the anti - degradation policy implementation

II. Background: The point and non point sources issues are two key elements for the anti - degradation implementation process, and they are outlined in the Puerto Rico Continuing Planning Process (CPP), along with the public participation requirements and the requirements for intergovernmental cooperation. In the point source point of view, many of the procedural and technical elements for the development and issue of the water quality certificates (WQC), and the evaluation of available assimilative capacity are included in the PRWQSR. This process currently involves the following steps.

1. The evaluation of the permit application to determine if the effluent limits are adequate to meet the WQS, and issuance of draft WQCs ensuring that the discharge meet the WQS. When requesting a WQC the petitioner must submit, as part of the application, a characterization of the effluent and the limits requested be applicable to the effluent. The petitioner must demonstrate to the satisfaction and requirement of the Board that the limits requested shall not cause a exceedance of the water quality standards in the water body. In no case shall it be allowed that any discharge will cause a violation of the water quality standard in the receiving water body (coastal, surface, estuarine and ground waters), if the average calculated from the flow proportional composite samples taken in a 24 hour period exceed the maximum limit allowed for that specific parameter as established in Article 3 of the WQSR.

2. The public noticing of these draft WQC and requesting public comment. EQB publishes a public notice in the newspaper of widest circulation in Puerto Rico informing its intention to grant or deny any WQC requested. EQB notifies the petitioner of the permit 15 days prior to the publishing date of the public notice, of the requirement to pay for the publication of said notice in order to allow the petitioner time to pay for the publication. The notice describes the location of the discharge or activity and includes: water body

   classification, name and address of the applicant, statement that a public hearing can be requested; preliminary determinations, statement that the draft WQC and draft NPDES permit are available for public scrutiny, and a statement that comments can be sent within 45 days of the notice. The final WQC is not issued until all comments are addressed.

3. EQB denies all certifications where the applicant fault to demonstrate that the discharge meet the WQS.

EQB follows the intergovernmental cooperation relationships outlined in the CPP.

The Proposed Approach: Under the proposed approach, the above four steps would be used in much the same way as they are used now for issuing WQCs which are necessary to comply with numeric WQS. However, instead of using compliance with numeric WQS as the end point, these four steps would be customized to address a scenario where an applicant, which was discharging into a Ahigh quality water,@ requested additional loading, which would result in the lowering of water quality in the receiving water.

– The information and demonstration requested by EQB under Step 1 above, would be tailored to enable EQB to make a determination regarding the need to lower water

quality in a high quality water.

_ As in step 2, the public would have the opportunity to provide comment on the potential lowering of water quality.

_ As in step 3, if EQB determining that the lowering of water quality was not justify, it would deny the certification.

_ As in step 4, the Intergovernmental cooperation relationships would be followed.

While the above approach may serve as the frame work for developing the enhanced implementation procedures, the details need to be discussed over the next several months, as described below.

IV. Elements of the Implementation Procedures which Must be Addressed:

There are several elements of the enhanced implementation procedures which need to be defined and further clarified. These include:

1. How EQB will define high quality waters (e.g., parameter-by-parameter, designation, combination);

2. What activities EQB will review for each element of the policy (e.g., requests for a new discharge, request for an increase in loadings for an existing NPDES permit, storm water general permits when issued, discharges requesting coverage under a general permit, 404 permits, non point source activities).

3. How EQB defines a lowering of water quality that would not require further review (i.e., based on a percentage increase in loadings, a percentage reduction in assimilative capacity, or other); and,

4. The information that the applicant required to provide, which EQB will use in making its determination on a particular request (i.e., the thresholds for the social and economic significance determinations).

5. How EQB will considerate the TMDL-s implementation for point and non point sources based in a Watershed approach in the anti-degradation implementation.